STIC Search Report
EIC 3600

STIC Database Tracking Number: 153232

TO: Kelly Campen **Location: KNOX 5D34** **Art Unit : 3624** **Wednesday, May 18, 2005** **Case Serial Number: 09/736070**	**From: Sylvia Keys** **Location: EIC 3600** **Knox 4B68** **Phone: 571.272.3534** **sylvia.keys@uspto.gov**

Search Notes

Dear Examiner Campen,

Please read through the results.

If you have any questions, please do not hesitate to contact me.

Sylvia

(34)

Griffin, Etelka

From: Unknown@Unknown.com
Sent: Thursday, May 12, 2005 9:26 AM
To: STIC-EIC3600
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= 153737

LogNumber= _____

Searcher= _____

SearcherPhone= _____

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MyDate=Thu May 12 09:24:42 EDT 2005

submitto=STIC-EIC3600@uspto.gov

Name=KELLY CAMPEN

Empno=73843

Phone=26740

Artunit=3624

Office=K5D34

Serialnum=09/736070

PatClass=705/35

Earliest=12/13/2000

Format1=paper

Format3=email

Searchtopic=PLEASE SEARCH THE INVENTORS:
George C. Crane

A method for analyzlng data that
represents a system that varies over time, said method
comprising:
beginning at a first initial moment,
acquiring said data during an initial first duration
and determining an initial first range of said data
between a minimum value during said initial first
duration and a maximum value during said initial first
duration; and
comparing said first range of said data
during said initial first duration to an expected range
of said data during said initial first duration based
on Brownian motion.

Comments=Thank you, my regular hours are 530-2pm.

```
File  16:Gale Group PROMT(R) 1990-2005/May 18
         (c) 2005 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2005/May 19
         (c)2005 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2005/May 19
         (c) 2005 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2005/May 19
         (c) 2005 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2005/May 19
         (c) 2005 The Gale Group
File   9:Business & Industry(R) Jul/1994-2005/May 18
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File  95:TEME-Technology & Management 1989-2005/Apr W2
         (c) 2005 FIZ TECHNIK
File 476:Financial Times Fulltext 1982-2005/May 19
         (c) 2005 Financial Times Ltd
File 610:Business Wire 1999-2005/May 18
         (c) 2005 Business Wire.
File 613:PR Newswire 1999-2005/May 19
         (c) 2005 PR Newswire Association Inc
File 624:McGraw-Hill Publications 1985-2005/May 18
         (c) 2005 McGraw-Hill Co. Inc
File 634:San Jose Mercury  Jun 1985-2005/May 18
         (c) 2005 San Jose Mercury News
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 625:American Banker Publications 1981-2005/May 19
         (c) 2005 American Banker
File 268:Banking Info Source 1981-2005/May W2
         (c) 2005 ProQuest Info&Learning
File 626:Bond Buyer Full Text 1981-2005/May 19
         (c) 2005 Bond Buyer
File 267:Finance & Banking Newsletters 2005/May 17
         (c) 2005 The Dialog Corp.

Set     Items   Description
S1          4   (MARKET()(CONDITION? ? OR PRICE? ?)(5N)(BROWNIAN()MOTION?))
S2     420722   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(TREND? ?
              OR CONGESTION?)
S3     513661   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(RANGE OR
              RANGES OR VARIABLE? OR CHANGE? ? OR SHIFT? ?)
S4         64   CAPGUARD?
S5         39   AU=(CRANE, G? OR CRANE G?)
S6          2   RD S1 (unique items)
S7          0   S1 AND (S2 OR S4)
S8        220   (MARKET()(CONDITION? ? OR PRICE? ?) AND (BROWNIAN()MOTION?-
             ))
S9         84   S8 AND (S2 OR S3)
S10        83   S9 NOT S6
S11        42   S10 NOT PY>2000
S12        39   RD (unique items)
S13         3   S4(5N)(MARKET()CONDITION? ? OR PRICE? ?)
S14         3   RD (unique items)

Sylvia Keys                    19-May-05 09:24 AM
```

S15 0 S5 AND S1

Sylvia Keys 19-May-05 09:24 AM

6/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

07901772 Supplier Number: 66033396 (USE FORMAT 7 FOR FULLTEXT)
JUMP DIFFUSION AND STOCHASTIC VOLATILITY.
Overhaus, Marcus
Derivatives Week, v9, n40, p6
Oct 2, 2000
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1046

... Mean reversion (kappa)=(kappa)+(lambda)
and there is a correlation (rho) between the two driving **Brownian motions** W. (lambda) is the **market price** of volatility risk.
The Heston model is mean-reverting and allows for a correlation between...

6/3,K/2 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01700658 03-51648
The pricing of embedded options in real estate lease contracts
Buetow, Gerald W Jr; Albert, Joseph D
Journal of Real Estate Research v15n3 PP: 253-265 1998
ISSN: 0896-5803 JRNL CODE: JRR
WORD COUNT: 4802

...TEXT: price follow the same stochastic process. A standard assumption for investment assets is that their **market prices** follow Geometric **Brownian Motion** (GBM). However, other stochastic processes are possible and some of these possibilities are explored later...

12/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

08286352 Supplier Number: 64690194 (USE FORMAT 7 FOR FULLTEXT)
Pricing and Hedging Convertible Bonds under Non-Probabilistic Interest Rates.(Statistical Data Included)
EPSTEIN, DAVID; HABER, RICHARD; WILMOTT, PAUL
Journal of Derivatives, v7, n4, p31
Summer, 2000
Language: English Record Type: Fulltext
Article Type: Statistical Data Included
Document Type: Magazine/Journal; Academic Trade
Word Count: 5480

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...rates (as assumed when calculating yields, durations, and convexities) or stochastic rates governed by a **Brownian motion** .
... fixed-income product. Delta hedging and unique pricing play no role, nor is there any **market price** of risk term.
We apply the model here to the pricing of convertible bonds. We...

...only difficult to estimate but also notoriously unstable. One of the key parameters is the **market price** of interest rate risk. This can be interpreted, depending on your viewpoint, as either an...value for a product, we will probably find a value that is far below the **market price** , and we would therefore never entertain the idea of buying it. Yet because of the...sup.2b(t-(t.sup.*))) - 1)
and
(Z.sub.M)((t.sup.*);T)
is the **market price** at time (t.sup.*) for the T-maturity bond.
The convertible bond value is 1...

...average dynamics of the yield curve. It is a mean-reverting model with a zero **market price** of risk and a volatility structure that depends on the spot rate. The real drift...

...stress that the values for the bands have been chosen to be realistic. Nevertheless, the **range predicted** by the model is too great to be of practical use; faced with such a...the values of parameters today, the time of pricing, and (Z.sub.0) is the **market price** of the zero-coupon bond.
Having found the marginal value of the convertible bond when...

...idea is easily extended to hedging with bonds of any maturities.
We remark that the **market price** of a hedging instrument must be confined within the spread for the price of that...
...are linear. The prices derived for the convertible bond are therefore not affected by the **market prices** of zero-coupon bonds, except insofar as these prices are used to calibrate some of...

...Wilmott model. In the classic models, we are in effect saying that we believe the **market prices** to be correct and that our model can be correct only if the outputs match...

...linear Epstein-Wilmott model, we are more realistically saying nothing about the validity of the **market prices** , only that the traded bonds may be useful in our portfolio to eliminate some risk...

...one, eliminating all model dependence and finding a theoretical price

exactly the same as the **market price** . No fitting in the classic sense is required. This important property of non-linear pricing...

12/3,K/2 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

07980781 Supplier Number: 59876179 (USE FORMAT 7 FOR FULLTEXT)
A Fractal Analysis of Foreign Exchange Markets.
MULLIGAN, ROBERT F.
International Advances in Economic Research, v6, n1, p33
Feb, 2000
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Refereed; Trade
Word Count: 7805

... divided (rescaled) by the standard deviation. Seemingly random time series may be deterministic chaos, fractional **Brownian motion** (FBM), or a mixture of random and nonrandom components. Conventional statistical techniques lack power to...expression in logarithms yields log (R/S) = log(a) + Hlog (n), which is used to **estimate** H. H **ranges** from 1.00 to 0.50 for persistent series, is exactly equal to 0.50...Economics Letters, 54, 1997, pp. 113-8.

Lo, Andrew W. "Long-Term Memory in Stock **Market Prices** ," Econometrica, 59, 3, September 1991, pp. 1279-313.

Lo, Andrew W.; MacKinlay, A. Craig. "Stock...Paper No. 1164, Yale University, September 1997.

Mandelbrot, Benoit B.; van Ness, J. W. "Fractional **Brownian Motion** , Fractional Noises and Application," SIAM Review, 10, 1968, pp. 422-37.

Mandelbrot, Benoit B.; Wallis, James R. "Robustness of the Rescaled **Range** R/S in the **Measurement** of Noncyclic Long-Run Statistical Dependence," Water Resources Research, 5, 4, October 1969, pp. 976...

12/3,K/3 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

12689786 SUPPLIER NUMBER: 66013952 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Market Efficiency in Specialist Markets Before and After Automation.
Freund, William C.; Pagano, Michael S.
Financial Review, 35, 3, 79
August, 2000
ISSN: 0732-8516 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 10430 LINE COUNT: 00839

... is also continuing efforts to enhance its ability to execute volume trades without creating volatile **market prices** . (3) It is also automating to lower its trade costs to meet an increasingly competitive... 1979-March 13, 1981. We then used each of these 500-day data periods to **estimate** the rescaled **range** statistics and Hurst exponents in the same way as for the ...Addison-Wesley Publishing, Redwood City, CA).

Lo, A.W., 1991. Long-term memory in stock **market prices** , Econometrica 59, 1279-1314.

Mandelbrot, B., 1972. Statistical methodology for non-periodic cycles: From the...of Finance 32, 41-55.

Willinger, W., M.S. Taqqu, and V. Teverovsky, 1999. Stock **market prices** and long-range dependence, Finance and Stochastics 3.

Appendix A: Derivation of the rescaled range statistic and the Hurst exponent

R/S analysis uses the basic equation of **Brownian motion** described by Einstein (1908). The following equation describes the distance a random particle travels as...

...5 for a sufficiently long time series when the system under study was a true **Brownian motion** process. Thus, Equation (A3) provides a convenient method for quantifying the randomness of a time...

...described in Equation (A3), except that E(R/S) replaces (R/S) as the dependent **variable** . The **estimates** of E(H) obtained from this regression, like the E(R/S) values, will therefore...

12/3,K/4 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

11790408 SUPPLIER NUMBER: 58632782 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Endowment Warrant Valuation.(Statistical Data Included)
HOANG, PHILIP; POWELL, JOHN G.; SHI, JING
Journal of Derivatives, 7, 1, 91
Fall, 1999
DOCUMENT TYPE: Statistical Data Included ISSN: 1074-1240
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 5982 LINE COUNT: 00742

... using a share price change process and an exercise price process that follow proportionate geometric **Brownian motion** processes rather than discontinuous price change paths.

This approach implies that the payoffs at maturity...differences in implied volatility out to the one-year maturity horizon are apparently useful for **predicting** subsequent **changes** in actual volatility (Dravid and Sang (1996)). It is not always possible to get ASX...the endowment warrant valuation estimates provided by our model in Equations (7) through (9) and **market prices** . One possibility is that endowment warrants came to the market subject to extra demand because...

12/3,K/5 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

11784316 SUPPLIER NUMBER: 58453196 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Is Convertible Debt a Substitute for Straight Debt or for Common Equity?
Lewis, Craig M.; Rogalski, Richard J.; Seward, James K.
Financial Management, 28, 3, 5
Autumn, 1999
ISSN: 0046-3892 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 16995 LINE COUNT: 01667

... is to obtain common equity financing at a better price than the issue date stock **market price** .

Stein (1992) ...is, we assume that the underlying common stock follows a diffusion process described by geometric **Brownian motion** . This probability is then estimated as N((d.sub.2)) where N(*) is the cumulative...

...and are observable prior to a security offer. The model includes many of

the same **predictive variables** in Bayless and Chaplinsky (1991) and Jung, ...about the firm, such as financing history, investment decisions, recent performance, and current economic and **market conditions** , on which they base their expectations about the likely form of a security offer. Since...cost variables that distinguish the security choice decision for these firms. The equity-related cost **variables** are issue proceeds, firm size (**measured** by the market value of the issuer's common equity), relative offer size, and financial...our analysis because qualitatively similar results are obtained when we repeat our analysis using the **predicted** security type as the classification **variable** . These results are available upon request from the authors.

(15.) Brennan and Schwartz (1988) suggest...the mean of a variable for debt issues minus the mean of the same variable **for** convertible issuers predicted **to** issue debt.

Straight Debt Convertible Debt Issues

Issues Designed to be Debt-Like
(N=259...

...the mean of a variable for stock issues minus the mean of the same variable **for** convertible issuers predicted **to** issue equity.

Equity Convertible Debt Issuers

Issuers Designed to be Equity-Like
(N=182) (N...stock and operating performance. When this is coupled with information about current economic and market **conditions** , **this** information influences the likely form of a security offer. The analysis indicates that the design...

12/3,K/6 (Item 4 from file: 148)

11582617 SUPPLIER NUMBER: 54772553 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Risk-neutral option pricing methods for adjusting constrained cash flows.
Birge, John R.; Zhang, Rachel Q.
Engineering Economist, 44, 1, 36(1)
Spring, 1999
ISSN: 0013-791X LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 4697 LINE COUNT: 00381

... any individual investment is its contribution to the risk of the overall market portfolio. The **market price** of risk is the premium that investors must receive over the risk-free rate (e...

...r.sub.f) is the corresponding risk-free rate, and (Mathematical Expression Omitted) is the **market price** of a unit of risk, which is measured in the market return variance, (Mathematical Expression...no transaction costs, and some Ito process on demand (see Birge (2)). The method effectively **changes** the distribution or **measure** of demand to a risk-neutral equivalent one and then discounts the future to the...1 An Ito process is a stochastic process that depends on both time and a **Brownian motion** or Wiener process. The **Brownian motion** component applies to limits of random walks, which fits the efficient market theory that prices ...

12/3,K/7 (Item 5 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

11135078 SUPPLIER NUMBER: 54955909 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Business as usual and rare events.(Special Theme: Derivatives & Risk Management)(risk management)
Focardi, Sergio
Journal of Portfolio Management, 47(8)
May, 1999
ISSN: 0095-4918 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 5567 LINE COUNT: 00466

... 3 trillion with a technology that has only a limited capability for short- and long- **range forecasting** and is only partially employed?
Current risk management theory holds that our ability to minimize...

...time intervals. To test the accuracy of forecasts is to test that discrepancies between actual **variables** and their conditional **forecasts** behave as independent and identically distributed (iid) variables (see, among others, Crnkovic and Drachman (1996...leveraging, credit risk begins to play a critical role, as under the stress of severe **market conditions** firms might not be able to honor their commitments.
Risk management, and derivatives in general...Lo, and MacKinlay (1997)). Scaling is also manifest in long-range correlations, as in fractional **Brownian motion** and fractional processes.
A mathematical consequence of scaling is fat-tailed behavior. If a process...

...wide use of Gaussian distributions, the CLT is also invoked to justify the use of **Brownian motions** and random walks to represent price movements.
The assumptions of near-independence and bounded variance...

12/3,K/8 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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11135034 SUPPLIER NUMBER: 54955719 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Jump processing in commodity futures prices and options pricing.
Hilliard, Jimmy E.; Reis, Jorge A.
American Journal of Agricultural Economics, 81, 2, 273(1)
May, 1999
ISSN: 0002-9092 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 6667 LINE COUNT: 00582

...AUTHOR ABSTRACT: s model. Jump-diffusion Asian option prices are also shown to differ considerably from geometric **Brownian motion** Asian option prices.
Key words: commodities, forwards, futures, implied volatility, jump-diffusion, option.

TEXT:
...of two parts: the normal small vibrations in price, which are modeled by a geometric **Brownian motion** , and abnormal large vibrations in price due to the arrival of important information, which are...
... the prices of these options are compared under the assumptions of jump-diffusion and geometric **Brownian motion** .
Model
Since this article is concerned with options on a single short-term

futures contract...

...large jumps and nonnormal skewness. In this model, price changes are assumed to follow geometric **Brownian motion** augmented with possible asymmetric random jumps. The jump-diffusion model for futures prices (F), using...

...work of MacMillan and Barone-Adesi and Whaley for evaluating American options written on geometric **Brownian motion** processes. Since commodity futures options are American options, Bates's analytic approximation is used in...from the prices of Treasury bills maturing closest to the maturity of the options.

Parameter **Estimates**

Besides the exogenous **variables** obtained from the data set, the jump-diffusion formula requires four parameters as inputs. Black...

...one day or less) which has a sufficient number of trades. This follows since rational **market prices** imbed the subjective estimate of jumps and other parameters in the option price. Specifically, with...informative to look at the implied moments of the risk-neutral distribution for different contracts **estimated** . The **changes** in the implied parameters are the result of both changes in market expectations and risk...option price, not just an estimate for the parameter vector is needed but also a **forecast** for the exogenous **variables** , futures price, and interest rate. Pricing out-of-sample options is equivalent to doing an ex post forecast, that is, using realized values of the exogenous **variables** . Therefore, the word **forecast** in this study means ex post forecast.

Option pricing biases are compared between the two...of Asian options were also computed by assuming that the futures price follows a geometric **Brownian motion** for comparison with prices generated with the jump-diffusion process (6). The antithetic variable technique...

...used for variance reduction for both stochastic processes. For the options based on the geometric **Brownian motion** , the prices of corresponding options on the geometric average, which can be valued in closed...of the jump-diffusion process and the volatility parameter ((Sigma).sub.gbm) of the geometric **Brownian motion** (GBM) process. These parameters were used to price Asian options with four months remaining to ...

...Asian options and 0.72 for standard options.

Table 8. Asian Options Prices under Geometric **Brownian Motion** (GBM)
and Jump-Diffusion (JD) Processes

Asian Options Standard Options

Strike JD GBM GBM/JD...

...higher than the corresponding distribution for the terminal futures prices. Therefore, the assumption of geometric **Brownian motion** leads to larger mispricing of OTM Asian options than of the corresponding OTM standard options...distribution for the arithmetic average price perform well when pricing Asian options in a geometric **Brownian motion** economy. See Levy for one such approximation.

References

Bakshi, G., C. Cao, and Z. Chen...

...Skewness Premia and Risk Metrics: Applications of a Four Parameter Closed Form Generalization of Geometric **Brownian Motion** to the Pricing of Options." Working Paper, University of Maryland and Georgia Institute of

Technology...

12/3,K/9 (Item 7 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

11060971 SUPPLIER NUMBER: 54612032 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Valuing the Futures Market Clearinghouse's Default Exposure during the 1987 Crash.
BATES, DAVID; CRAINE, ROGER
Journal of Money, Credit & Banking, 31, 2, 248(1)
May, 1999
ISSN: 0022-2879 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10164 LINE COUNT: 00973

... the current futures price. This option portfolio is known as a strangle (Hull 1997); the **market price** of the strangle is the insurance premium.
Options have been used to price default risk...

...thousand contracts.
The three measures of exposure depend critically on the conditional distribution of the **change** in the futures price. **Estimating** the conditional distribution can be difficult even under normal circumstances. Such estimation is especially difficult...

...returns over the period January 2, 1985, through September 30, 1987, and identify those informational **variables** most useful in **forecasting** return distributions. Second, we update conditional distribution estimates on a daily basis over October and...dq
where
((Mu).sub.t) - ((Lambda).sub.t)(bar)(Gamma) is the drift in the **Brownian motion** ;
W is a Weiner process;
((Sigma).sub.t) is the instantaneous volatility conditional upon no
...

...and the parameters are not time varying, then the process collapses to the popular geometric **Brownian motion** specification assumed by Black and Scholes (1973). Jumps produce a distribution with fatter tails, and... specifications for the underlying driving process: the Black-Scholes option pricing model, which assumes geometric **Brownian motion** , and the Bates (1991) model, which assumes a jump-diffusion process.
Table 3 shows the...a standard deviation about 1 percent. Such low-amplitude jump risk is virtually indistinguishable from **Brownian motion** at the two-month horizon of the contemporaneous December 1987 S&P 500 futures options...futures. Those formulas maintain the Black and Scholes (1973) and Black (1976) assumption of geometric **Brownian motion** for the underlying asset price.
(13.) For models with EGARCH terms, the log of the...

12/3,K/10 (Item 8 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

10711163 SUPPLIER NUMBER: 53449286 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Hysteresis and the shortage of agricultural labor.
Richards, Timothy J.; Patterson, Paul M.

American Journal of Agricultural Economics, 80, 4, 683(1)
Nov, 1998
ISSN: 0002-9092 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 8583 LINE COUNT: 00705

TEXT:
...be unreliable (Martin) and which the USDA criticize as being nonrepresentative of local rural labor **market conditions** . Furthermore, one can question whether unemployment among all workers truly represents a surplus of agricultural...
... defined in terms of a stochastic wage series. Specifically, the relative wage follows a geometric **Brownian motion** with drift:(1)
(1) dw/w = (Mu)dt + (Sigma)dz
where (Mu) is the mean...the entry-wage ((w.sub.H)) and the exit-wage ((w.sub.L)), three possible **market conditions** can be written as
(14) (Mathematical Expression Omitted)
where w, is the nonagricultural wage in...the five regions span nearly the entire state of Washington, it is likely that labor **market conditions** differ among the regions.(7) Therefore, estimates of the arbitrage model are obtained using a...

...provides thirty market scenarios. Comparisons between these scenarios may provide evidence as to whether labor **market conditions** are consistent throughout the state, or are entirely local, as the GAO suggests.
To identify...

...specifications for this variance definition did not result in qualitatively different parameter estimates. Finally, the **estimated** model includes a binary **variable** taking on a value of 1.0 beginning in October 1996 to account for the...creates a significant option value and hysteresis effect in the decision to move between sectors. **Estimates** of this option value **range** from $0.25 in region two (at a 10% level of significance) to over $4...Pindyck (p. 75) suggest a way to test this assumption. Define a general mean-reverting **Brownian motion** as (Mathematical Expression Omitted), where (Eta) is the rate of mean reversion, and is the...

...to reject the null hypothesis that (Eta) = 0 suggests that the process collapses to simple **Brownian motion** where relative wage increments are due to variability in the series only. In the current...

12/3,K/11 (Item 9 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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10699865 SUPPLIER NUMBER: 53410848 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Implied volatility functions: empirical tests.
Dumas, Bernard; Fleming, Jeff; Whaley, Robert E.
Journal of Finance, 53, 6, 2059(4)
Dec, 1998
ISSN: 0022-1082 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 13686 LINE COUNT: 01099

... valuation formula. The Black-Scholes (1973) model, for example, assumes the asset price follows geometric **Brownian motion** with constant volatility. Consequently, all options on the same asset should provide the same implied...

...valuation framework, however, is no easy task. With stochastic

volatility, option valuation generally requires a **market price** of risk parameter, which, among other things, is difficult to estimate. An exception occurs when...

...the DVF approach as an important new way to identify the underlying process of financial **market prices** and for setting hedge ratios and valuing exotic options. On the other hand, if the...the no-arbitrage constraint is imposed. As a result, they allow for "small" deviations from **market prices** , and use the sum of squared dollar errors (as we do also) in their objective...in-sample estimates for the DVF model seem to be unstable. This inference implies that **changes** in the coefficient **estimates** may not be entirely due to economic factors, but may be the result of overfitting...end-of-day window for ease in interpreting the results.

20 Model 2 is also **estimated** without the time **variable** with little difference in explanatory power.

21 To test if the estimation results are driven...

12/3,K/12 (Item 10 from file: 148)

10651992 SUPPLIER NUMBER: 21275838 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Investment, uncertainty, and irreversibility in Ghana.

Pattillo, Catherine
International Monetary Fund Staff Papers, v45, n3, p522(32)
Sept, 1998
ISSN: 0020-8027 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10393 LINE COUNT: 00901

TEXT:

...which theory is not conclusive. In addition, the paper tests whether a firm-level uncertainty **variable** that **measures** the entrepreneur's perceptions of risk is significant in the model estimation. ... and Loungani, 1996). For these to be valid proxies, however, one must assume that firms **forecast** future volatility based on past **trends** and that the aggregate volatility trends are part of their information set. In contrast, the uncertainty **variable** employed in this paper directly **measures** the entrepreneur's perceptions of risk, conditional on his or her information.

A number of...

...models have characterized optimal investment behavior when investment is irreversible and demand follows a geometric **Brownian motion** . The firm allows the marginal revenue product of capital (MRPK) to fluctuate stochastically, and invests...

...first-stage proxy for the trigger, I explore its determinants, including the effects of uncertainty **variables** . Using the coefficients from this **estimation** , a predicted trigger can be calculated for both investing and noninvesting firms. A probit model...positive investment. The approach uses a probit method to estimate a structural equation after substituting **estimates** of the endogenous **variables** in the equation. Lee (1979) showed that the resulting estimates of (Theta) are consistent and...

...MRPK hits a trigger.

To address question (3), an accelerator-style model supplemented with uncertainty **variables** will be **estimated** . It involves an equation for the investment level, in which variables are scaled by the...

...which is necessary to account for the selection of only firms with positive investment.

V. **Variable** Definitions

Estimated equations for the decision to invest, and the MRPK and the investment level, conditional on...

...expectations of demand tot their firm's products. However, rather than only asking for point **estimates** - what percentage demand **change** they expected - firms were asked to assign probabilities to a range of potential percentage changes...demand enters into the investment trigger condition in the investment under uncertainty model. Moreover, the **estimated** effects of the uncertainty **variable** would be biased if the expected mean demand growth is not controlled for.

The bottom...

...of industry-specific capital. When a firm attempts to sell capital goods because of poor **market conditions** , it may find few buyers or low prices offered by other firms in the industry that face the same **market conditions** . The average ratio of sales to replacement value of the capital stock differs across manufacturing...if (Mu) equals 1, then (D.sub.t) equals (B.sub.t), which is the **market price** that the firm takes as given L is labor, a perfectly flexible production factor that...

...a decrease in output by more than 30 percent, etc.

Now we need you to **estimate** the likelihood of each expected **change** in output occurring on a scale of 0-100. 100 means that there is a...

12/3,K/13 (Item 11 from file: 148)

10628251 SUPPLIER NUMBER: 20055379 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Market efficiency before and after the introduction of electronic trading at the Toronto Stock Exchange.

Freund, William C.; Larrain, Maurice; Pagano, Michael S.
Review of Financial Economics, v6, n1, p29(28)
Wntr, 1997
ISSN: 1058-3300 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10210 LINE COUNT: 00884

... a Hurst exponent (H) of 0.5 if the system under study was a true **brownian motion** process. Thus, Equation 1 provides a convenient method for quantifying the randomness of a time...described in Eq. 1 except that E(R/ S) replaces (R/S) as the dependent **variable** . The **estimates** of E(H) obtained from this regression, like the E(R/S) values, will therefore...for all three periods. Further, there appears to be no clear pattern contained within the **changes** in the Hurst exponent **estimates** . For example, 11 of the securities (42% of the total) reported a decrease in their...for pointing out this possibility. In the context of our paper, we have employed a **brownian motion** random walk process as the null hypothesis for both stocks and stock indexes. As shown...Redwood City, CA: Addison-Wesley Publishing.

Lo, A.W. 1991. Long-Term Memory In Stock **Market Prices** , Econometrica, 59:1279-1313.

Massimb, M.N., and B.D. Phelps. 1994. Electronic Trading, Market...

12/3,K/14 (Item 12 from file: 148)

10450132 SUPPLIER NUMBER: 21112139 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New insights into smile, mispricing, and value at risk: the hyperbolic model. (smile effect related to stock pricing model formulated by economic researchers F. Black and M. Scholes)
Eberlein, Ernst; Keller, Ulrich; Prause, Karsten
Journal of Business, v71, n3, p371(35)
July, 1998
ISSN: 0021-9398 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10848 LINE COUNT: 00917

Osborne (1959) was the first to rediscover the normal distribution and, consequently, the **Brownian motion** as a model for stock returns after the ingenious and nowadays well-known work of...

...stock returns, it was Samuelson (1965), who introduced the geometric or, in his words, "economic" **Brownian motion** , that gave the price process an exponential form. It is this price process that is...

...normality is well known, until now many of the improved models have been based on **Brownian motion** as the driving process. Let us underline that distributional assumptions are not the only direction toward which improvements aim. Merton (1976) added Poisson jumps to the geometric **Brownian motion** model. Dependence structures and existence of moments among other facts have been investigated thoroughly (see...

...that one observes. Although the hyperbolic Levy motion is not so easy to handle as **Brownian motion** , a closed option pricing formula could be derived in Eberlein and Keller (1995). It can...

...process (S.sub.t) underlying the Black-Scholes (1973) model is given by the geometric **Brownian motion** . The latter is often formulated as the solution of the following linear stochastic differential equation...

...S.sub.t)d(W.sub.t), (2)
where (W.sub.t) is a standard **Brownian motion** . Equation (2) describes ...formulated as the solution of another stochastic differential equation that is driven by another independent **Brownian motion** . As a result one gets stochastic volatility models.
These generalizations of the basic model (2...

...1976) added Poisson jumps to the model, the main source of its randomness is still **Brownian motion** . The empirical results of the preceding section led us to substitute **Brownian motion** by an appropriate alternative process, the hyperbolic Levy motion discussed below. Because we want to...

...see, e.g., Jacod and Shiryaev 1987, pp. 58-61). In contrast to the geometric **Brownian motion** the process given by (5) is not suitable for modeling price paths of financial assets...

...the distribution of (X.sub.1) is given by the density (1). Recall that both **Brownian motion** and the Poisson process are Levy processes (for an introduction into the theory of Levy by a geometric **Brownian motion** , we get individual price processes for each stock corresponding to its individual shape. In fact...

...stock returns given above, we want to show now how this translates into option pricing. **Brownian motion** is the basic building block for all

price models given by (3). As we want...50 trading days). Therefore, one should pay particular attention to this region.

Writing the actual **market price** on the left side of the equation and the Black-Scholes option pricing formula on...Pricing Performance

An alternative approach to testing an option pricing model is to compare observed **market prices** with the model prices. In contrast to volatility comparisons pricing performance analyzes price differences; hence...

...for the Black-Scholes and for the hyperbolic model. The difference of model price minus **market price** of the call options increases with time to maturity. In the case of the Bayer...variety of possible equivalent martingale measures. Eberlein and Jacod (1997) showed that under all these **measures** the **range** of the pricing operator covers the whole possible no-arbitrage interval. Thus we have to...

...often used in interest rate modeling. Because of the intricate forms of these models, a **change** of **measure** is often a very difficult problem leading to the idea of martingale modeling. In the...the normal distribution than daily returns. Therefore for long-term historic studies the classical geometric **Brownian motion** model is, to a certain degree, appropriate. Given the increased trading frequency of modern financial...F is called the Levy measure. It describes the jumps of the process. For a **Brownian motion** (W.sub.t), with drift (Mu), the Levy measure vanishes because of the continuous paths...

...L. 1900. Theorie de la speculation. In P. Cootner (ed.), The Random Character of Stock **Market Prices** . Cambridge, Mass.: MIT Press.

Bakshi G.; Cao, C.; and Chen, Z. 1997. Empirical performance of... Hyperbolic distributions in finance. Bernoulli 1:281-99.

Fama, E. 1965. The behavior of stock **market prices** . Journal of Business 38:34-105.

Gamrowski, B., and Rachev, S. T. 1996. Testing the...

...skewness premia and risk metrics: Applications of a four parameter closed form generalization of geometric **Brownian motion** to the pricing of options. Working paper. College Park: University of Maryland, College of Business...

...with discontinuous returns. Review of Financial Studies 3:493-521.

Osborne, M. F. M. 1959. **Brownian motion** in the stock market. Operations Research 7:145-73.

Pagan, A. 1996. The econometrics of...

...Industrial Management Review 6:13-32.

Scott, L. O. 1987. Option pricing when the variance **changes** randomly: Theory, **estimation** , and an application. Journal of Financial and Quantitative Analysis 22:419-38.

Shastri, K., and...

12/3,K/15 (Item 13 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

10343496 SUPPLIER NUMBER: 20950060 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Changes in trading activity following stock splits and their effect on volatility and the adverse-information component of the bid-ask spread.
Desai, Anand S.; Nimalendran, M.; Venkataraman, S.
Journal of Financial Research, v21, n2, p159(25)

Summer, 1998
ISSN: 0270-2592 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 9281 LINE COUNT: 00741

... to December 1990. The initial sample consists of 980 splits announced by 739 firms.

We **estimate** the pre-split microstructure **variables** for the sample (such as volatility, spreads, trading intensity, etc.) over the 180-day period...the two groups in the pre- and post-split periods.

We report statistics for microstructure **variables** and **measures** of trading activity in Table 2. The table reports pre- and post-split means and...

...s is the percentage bid-ask spread.(2) This bias could be particularly significant in **estimating** the volatility **change** around stock splits since the bid-ask spread increases after the split. Following Kaul and...
...the inflation in the volatility estimates. Ball shows that if stock prices follow a Geometric **Brownian motion** with an instantaneous true underlying variance ((Sigma).sup.2) and price P, the bias induced...

...split volatility is 1.81. Thus, volatility increases by 81 percent after the split?

Our **estimates** of **changes** in the bias-corrected volatility indicate that microstructure biases arising from bid-ask bounce and...

...alone cannot account for the previously documented increase in volatility after stock splits. Moreover, the **estimates** of volatility **changes** for each subsample indicate that the increase is even more dramatic for the large-split...examine the effect of the change in the trader mix after the split on the **change** in volatility **estimates** , we need to **estimate changes** in trader types after stock splits. Since it is not possible to directly identify the...of both noise and informed trading increases after a split.

Cross-sectional Analysis of Volatility **Changes**

Trading activity can be **measured** by either the number of transactions or the size of the trade (i.e., turnover...

...transactions. Given their conclusions, we use the change in the number of trades as our **measure** of the **change** in trading activity.(9)

First, we investigate the relation between the change in the total...
Volatility Corrected for Price Discreteness

Ball (1988) shows that if stock prices follow a Geometric **Brownian motion** with an instantaneous true underlying variance ((Sigma).sup.2) and price P, the bias induced...volatility estimated using bid-to-bid prices, ((T.sub.2) - (T.sub.1)) is the **range** of the **estimation** period, and (P.sub.B,t) is the bid price at time t ((T.sub...turnover volume: the correlation coefficient between these two variables is 0.79. Thus, including both **measures** of **changes** in trading activity results in the usual problems associated with multicollinearity in independent variables.

10...

...to firm size, we also estimated this model using firm size as an additional explanatory **variable** . The results from this **estimation** are qualitatively similar to those reported in Table 7. Including firm size in the right...

...to stock splits, Journal of Finance, 1347-70.

Lo, A. and C. MacKinlay, 1988, Stock **market prices** do not follow random walks: Evidence from a simple specification test, Review of Financial Studies...

12/3,K/16 (Item 14 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09336721 SUPPLIER NUMBER: 19141447 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Pricing catastrophe insurance futures call spreads: a randomized operational time approach.
Chang, W. Carolyn; Chang, Jack S.K.; Yu, Min-Teh
Journal of Risk and Insurance, v63, n4, p599(19)
Dec, 1996
ISSN: 0022-4367 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 7960 LINE COUNT: 00653

... Scholes (1973) European option pricing model by assuming the underlying futures price process follows a **Brownian motion** .(4) The diffusion assumption ignores the sporadic nature of catastrophes and the subsequent concentration of...arrival diffusion process during the event-quarter only. However, they assume a given constant equilibrium **market price** of the jump risk as in Shimko (1992), in order to derive valuation results.

The...formulas, the information-time formula being risk neutral provides valuable simplification. With only two unobservable **variables** to be **estimated** , the formula is also parsimonious in implementation. So the "randomized operational time" concept materializes in...

12/3,K/17 (Item 15 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09317240 SUPPLIER NUMBER: 19028423 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The effects of decision making on futures price volatility.
Hennessy, David A.; Wahl, Thomas I.
American Journal of Agricultural Economics, v78, n3, p591(13)
August, 1996
ISSN: 0002-9092 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 6812 LINE COUNT: 00575

... maturity conjecture. Their interpretation of the SH is that the amount of information revealed about **market conditions** at contract expiration increases as the date of expiration draws near.

Bessembinder et al. dispute...t) - z(t - (Delta)t)) = k(Delta)t, where k is a constant.

Continuous-time **Brownian motion** with drift generalizes the applicability of the Wiener process. Specifically, x(t) follows **Brownian motion** with drift if dx(t) = (Alpha)dt + (Sigma)dz(t), and z(t) is Wiener ...

...associated with dz(t) to ((Sigma).sup.2). A variant of this specification is geometric **Brownian motion** , where x(t) is replaced by ln(x(t)) to give dx(t) = (Alpha)x...y are stochastic, then higher-order terms cannot be ignored. Specifically, if x follows geometric **Brownian motion** through time, then ((dx).sup.2) gives rise to the expression (((Sigma)x(t)).sup.2) which is of order one and cannot be dismissed. Thus, in continuous-time **Brownian motion** models, one should expect a quadratic term such as ((Delta).sup.2)F/(Delta)(x...

...harvest time) of the stochastic process ((Psi).sub.t), which evolves

according to the geometric **Brownian motion**
(3) d(Psi) / (Psi) = ((Sigma).sub.(Psi))(dz.sub.(Psi))
where ((Sigma).sub.(Psi)) is...

...elasticity of demand. Here, ((Phi).sub.T) has evolved over time according to the geometric **Brownian motion** ,
(6) d(Phi) / (Phi) = ((Sigma).sub.(Phi))(dz.sub.(Phi))
where ((Sigma).sub.(Phi)) represents...9(December 1989):477-89.
-----. "Impacts of Shifts in Uncertainty on Spot and Futures Price **Change** Serial Correlation and Standardized Covariation **Measures** ." J. Futures Mkts. 13(December 1993):873-87.
-----. "The Relative Responsiveness to Information and Variability...

12/3,K/18 (Item 16 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08857430 SUPPLIER NUMBER: 18556025
Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads. (includes appendices)
Leland, Hayne E.; Toft, Klaus Bjerre
Journal of Finance, v51, n3, p987(33)
July, 1996
ISSN: 0022-1082 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 11402 LINE COUNT: 00911

... of value paid out to security holders; and dz is the increment of a standard **Brownian motion** .(4) The process continues without time limit unless V falls to a default-triggering value...the sum of the revenues from selling an equal principal amount of bonds at their **market price** , and the cash flow available for payout generated by the firm's activities.
Smooth pasting...debt with this maturity.
D. The Duration and Convexity of Risky Debt
Macaulay (1938) duration **measures** percent **change** of a bond price in response to a uniform change in default-free interest rates...

...of default risk? By "correct" measure of duration, we simply mean an expression that correctly **predicts** the percentage **change** in the (risky) bond value in response to a change in the default-free interest...default during the debt's life, or credit spread? Credit spread seems the more important **variable** to **predict** when **market prices** are unavailable. While these two are related, the relation is complex. **Predicted** credit spreads reflect exogenous **variables** such as current asset value, risk, debt maturity, bankruptcy costs, payout rate, and the default...U.S. firms in reorganization, Journal of Finance 44, 747-769.
Harrison, J. M., 1990, **Brownian motion** and stochastic flow systems (Krieger Publishing Company: Malabar, Florida).
Ibbotson Associates, 1994, Stocks, bonds, bills...

12/3,K/19 (Item 17 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08857428 SUPPLIER NUMBER: 18556023
Swap rates and credit quality. (includes appendices)
Duffie, Darrell; Huang, Ming
Journal of Finance, v51, n3, p921(29)
July, 1996

ISSN: 0022-1082 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 11397 LINE COUNT: 00896

... Harrison and Kreps (1979), nor with the identification of some particular equivalent martingale measure from **market prices** . For example, consider a swap whose cumulative net cash flows to a given counterparty, including...have pointed out that the future timing of resolution of information may influence the current **market price** of a defaultable claim whose default hazard rate or payoff upon default may depend on...3.1)

where (Kappa), (Mu), and (Sigma) are positive constants and W is a standard **Brownian motion** and an F-martingale relative to the equivalent martingale measure Q.

B. Method of Calculation...value (in dollars) of one yen at time t, is taken to be a geometric **Brownian motion** under the equivalent martingale measure Q. That is,

d(q.sub.t) = ((r.sub.d...

...sub.t), (4.1)

where ((Sigma).sub.q) is a constant and W is a **Brownian motion** under Q. The drift term ((r.sub.d) - (r.sub.f))(q.sub.t) ensures...all propositions.

LEMMA 1. For a given f (element of) (Lambda), an (F.sub.T)- **measurable** random **variable** Y, and a finite variation process {(D.sub.t) : 0 (less than or equal to...

12/3,K/20 (Item 18 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08856513 SUPPLIER NUMBER: 18554889
On time series econometrics.(Illinois Centennial Essays on Economics)
Cribari-Neto, Francisco
Quarterly Review of Economics and Finance, v36, p37(24)
Annual, 1995
ISSN: 1062-9769 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 9366 LINE COUNT: 00766

... on the OLS estimator and on an M-estimator converges to a normally distributed random **variable** .

III. **ESTIMATING** BUSINESS CYCLES

A difficulty involving in trend/cycles decompositions once a stochastic trend is assumed...in the future, to reestablish the ratio, and today's consumption is nearly today's **forecast** of the long-run ' **trend** ' in GNP" (p. 2). He argued that innovations in GNP that do not change consumption...8. See also Balke and Fomby (1991b, 1991c).

9. See Hida (1980) for details on **Brownian motion** and Brownian bridge. For a definition of weak convergence, see Billingsley (1968), Davidson (1994) and...Illinois.

Hendry, D.F. 1995. Dynamic Econometrics. New York: Oxford University Press.

Hida, T. 1980. **Brownian Motion** . New York: Springer-Verlag.

Hurvich, C.M. and C.L. Tsai. 1989. "Regression and Time...

...of Monetary Economics, 29. 87-93.

Lo, A.W. and A.C. MacKinlay. 1988. "Stock **Market Prices** Do Not Follow Random Walks: Evidence from a Simple Specification Test," Review of Financial Studies...

12/3,K/21 (Item 19 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

08478539 SUPPLIER NUMBER: 17844119 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Backwardation in oil futures markets: theory and empirical evidence. (includes appendix)
Litzenberger, Robert H.; Rabinowitz, Nir
Journal of Finance, v50, n5, p1517(29)
Dec, 1995
ISSN: 0022-1082 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 9911 LINE COUNT: 00816

... partial equilibrium model where the spot price of oil is assumed to follow a geometric **Brownian motion** and the slope of the oil price term structure follows an arithmetic **Brownian motion** . Under this model the futures price for every maturity is lognormally distributed and its volatility...

...test as opposed to absolute variables. Furthermore, based on a comparative statics analysis Theorem 2 **predicts** a **change** in production in ...only non-regulated states where producers are able to vary their production in response to **market conditions** . The implied volatility is computed using the Black (1976) formula from at-the-money-futures...

12/3,K/22 (Item 20 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

08425238 SUPPLIER NUMBER: 16455256 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Alternative models for the conditional heteroscedasticity of stock returns.
Kim, Dongcheol; Kon, Stanley J.
Journal of Business, v67, n4, p563(36)
Oct, 1994
ISSN: 0021-9398 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 8109 LINE COUNT: 00671

... diffusion process for the distribution of stock returns consists of the superposition of a geometric **Brownian motion** and an independent compound Poisson process with normally distributed jump amplitudes. This Poisson jump-diffusion **Brownian motion** ;
N(t) = a Poisson counting process with parameter (lambda) > 0;
(J.sub.n) = a normal...

...nth jump;
(alpha) = the instantaneous conditional expected rate of return per unit time for the **Brownian motion** part of the process; and
((alpha).sup.2) = the instantaneous conditional variance of the rate of return
per unit time for the **Brownian motion** part of the process.
Then, the probability density function of a security return is
(Mathematical...to 18.801. This confirms the nonnormality in the standardized residuals. The degrees-of-freedom **estimates range** from a high of 9.828 in the GJR(1, 3)-M specification for the...Journal of Finance 48 (December): 1749-78.
Fama, E. F. 1965. The behavior of stock **market prices** . Journal of Business 38 (January): 34-105.
French, K. R. 1980. Stock returns and the...

...D. A.; Miller, R.; and Wichern, D. 1974. On the stable Paretian behavior of stock **market prices** . Journal of the American Statistical Association 69 (March): 108-13.
Jarrow, R., and Rosenfeld, E...

12/3,K/23 (Item 21 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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07864550 SUPPLIER NUMBER: 16875037 (USE FORMAT 7 OR 9 FOR FULL TEXT)
An econometric analysis of the market for natural gas futures.
Walls, W. David
Energy Journal, v16, n1, p71(13)
Jan, 1995
ISSN: 0195-6574 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 4695 LINE COUNT: 00401

...ABSTRACT: the market for natural gas futures as a test variable. This particular hypothesis considers the **market price** of futures as a fair indicator of actual prices in the future at the site...
... the risk of future price changes. Of primary concern is the extent to which futures **market prices** accurately reflect the available information which bears on the future spot price. Futures markets are... available information. A common test for futures market efficiency is to first regress the spot **market price** at time t on the futures contract price at time t - j for a contract...matrix. The likelihood ratio test statistic -2lnQ(r) converges in distribution to (p-r)-dimensional **Brownian motion** . This distribution is nonstandard and has been generated through simulation by Osterwald-Lenum (1992) for...

...price and the corresponding one month ahead futures price.(10) In addition to this spot **market price** , prices at twelve nodes located throughout the U.S. gas pipeline network were tested for...

...order one.
The cointegration analysis of market efficiency between the futures price and each spot **market price** begins by first determining ...be no deterministic trend (i.e. [Gamma] = 0). Johansen's (1991) procedure was followed by **estimating** equation (4) with a deterministic **trend** and without a deterministic trend but with a constant term in the cointegration vector.(12...
...gas futures market is generally consistent with the efficient markets hypothesis; that is, the futures **market price** is an unbiased predictor of the future spot price at the delivery location. It was also found that the futures **market price** was an unbiased predictor, up to transmission costs, of spot prices at most of the...

12/3,K/24 (Item 22 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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07543443 SUPPLIER NUMBER: 16310378 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Exploiting the conditional density in estimating the term structure: an application to the Cox, Ingersoll, and Ross model.
Pearson, Neil D.; Sun, Tong-Sheng
Journal of Finance, v49, n4, p1279(26)
Sept, 1994

ISSN: 0022-1082 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 9908 LINE COUNT: 00865

ABSTRACT: We propose an empirical method that utilizes the conditional density of the state **variables** to **estimate** and test a term structure model with known price formulae, using data on both discount...
... variables. This article presents an empirical method that utilizes the conditional density of the state **variables** to **estimate** and test a term structure model with known bond formulae, using data on both discount
...

...variables are not observable. It is, therefore, difficult to exploit their conditional joint density in **estimation** and testing. Specifically, the state **variable** in one-factor term structure models is the instantaneous interest rate, which is the yield...

...The key to our approach is to recover the unobservable state variables from the observed **market prices** and to utilize the conditional density of the state **variables** in **estimation** and testing. The conditional density determines the evolution of the term structure through time. We...

...0) are constants, and [Z.sup.(1)] is a standard (zero drift and unit variance) **Brownian motion** . The parameter [[Theta].sub.1] is the long-term mean of the real interest rate...than] 0), and [[Sigma].sub.p]([is less than] 1) are constants. The two standard **Brownian motions** , [Z.sup.(2)] and [Z.sup.(3)], are correlated with coefficient [Rho], but independent of...sub.t]([Tau]) and [Mathematical Expression Omitted] denote the CIR model price and the observed **market price** at time t. Brown and Dybvig (1986) assume that [Mathematical Expression Omitted], where [[Epsilon].sub...

...Sigma].sup.2]r is the local variance, and [Z.sup.(1)]
is a standard **Brownian motion**
. The real factor premium is [Lambda]r. The
yield for a discount bond with maturity...the ten on-the-run Treasury issues. The price error is the difference between the **market price** and the model price given the estimates and the recovered r and y. Since we...

...month bills to recover r and y in estimation, the model price always matches the **market price** for the two bills. However, the price errors are extremely large in the long end...different from the actual ones. Further, the model prices are on average greater than the **market prices** for all maturities. The average price errors are all positive in Table IV, and the...Cox, Ingersoll, and Ross (1985). Our method exploits the conditional density of the unobserved state **variables** . We **estimate** the model using data on the prices of both discount and coupon U.S. Treasury...

...sub.p] is zero. In fact, y is a subordinated process which, along with the **Brownian motion** , [Z.sup.(2)], determines the evolution of the price level.
3 There are measurement errors...

12/3,K/25 (Item 23 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

07270026 SUPPLIER NUMBER: 15485941 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Black and official exchange rates in the Pacific Basin countries: an analysis of their long-run dynamics.

Phylaktis, Kate; Kassimatis, Yiannis
Applied Economics, v26, n4, p399(9)
April, 1994
ISSN: 0003-6846 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 5179 LINE COUNT: 00430

... which encourages some of the supply of foreign currency to be sold illegally, at a **market price** higher than the official rate. The size of the black markets depends upon the degree...2ln |Q.sub.r
is distributed as a function of a (p - r) dimensional standard **Brownian motion** and tabulates the distribution of the test statistic. In the case where p = 1 this...

...unit root test for a single series.
11 The augmented Dickey-Fuller regressions were also **estimated** using a **trend** term. The order of integration for each of the seven black and official exchange rates...

12/3,K/26 (Item 24 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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06806925 SUPPLIER NUMBER: 15263760 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Mortgage refinancing with asymmetric information.
Yang, T.L. Tyler; Maris, Brian A.
Journal of the American Real Estate & Urban Economics Association, v21, n4, p481(30)
Winter, 1993
ISSN: 0270-0484 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 10282 LINE COUNT: 00798

... mortgage that costs him less. In order to determine whether refinancing is optimal under given **market conditions**, the borrower must first solve for the value of two callable mortgages with different contract ...time |H.sup.B
. At that moment, the mortgage is repaid in full regardless of **market conditions**, and the value of the mortgage equals its outstanding balance with probability 1. Solving through...

...Rendleman and Bartter (1980). This interest rate process uses a binomial approximation to a geometric **Brownian motion** (lognormal distribution) that takes the following form:
|Mathematical Expression Omitted
where |i.sub.t
is...

...i = |e.sup.x
. By Ito's lemma, the interest rate process follows a geometric **Brownian Motion** with mean |Mu
+ ||Sigma
.sup.2
/2 and variance ||Sigma
.sup.2
.
This process has...

...comparison.
Value of the Mortgage to the Borrower
The parameters of the mortgage and the **market conditions** used in

the simulations are:

Loan Amount	$100,000
Contract Rate	8%

Term to Maturity...the Borrower") into equation (7), a borrower can determine the optimal refinancing strategy under given **market conditions** . Minimum interest rate differentials to justify refinancing |IRD's, in basis points (bp)

, solved by...rate differential necessary to justify refinancing.

Table 3 contains the interest rate differentials under different **market conditions** . In all the cases, the IRD increases when either the mean or the volatility of...

...to make the mistake of not refinancing when it is optimal to do so. The **estimated** IRD's **range** from below 50 bp to more than 250 bp. In most cases, the IRD is...

12/3,K/27 (Item 25 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

06789804 SUPPLIER NUMBER: 14891897 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A compound option model of production and intermediate inventories. (includes appendix)
Cortazar, Gonzalo; Schwartz, Eduardo S.
Journal of Business, v66, n4, p517(24)
Oct, 1993
ISSN: 0021-9398 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 8055 LINE COUNT: 00636

... price for a unit of final (second-stage) output is determined competitively and follows a **Brownian motion** . Let
dS/S = |Mu
dt + |Sigma
dz,
where |Mu
is the instantaneous trend, |Sigma
is...firm has the ability to instantaneously process and sell all work-in-process at the **market price** , should it decide to do so, the critical second-stage price will not depend on...by running regressions of changes in inventories on changes in interest rates (and perhaps other **variables**). The model would **predict** that the coefficient on the interest variable has a different sign for work-in-process...

12/3,K/28 (Item 26 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

06771947 SUPPLIER NUMBER: 14793789 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Case studies on real options. (Topics in Real Options and Applications)
Kemna, Angelien G.Z.
Financial Management, v22, n3, p259(12)
Autumn, 1993
ISSN: 0046-3892 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 9221 LINE COUNT: 00712

... an undeveloped project.
The standard OPT typically assumes that the underlying stock follows a geometric **Brownian motion** with a constant rate of return and a constant volatility. If OPT is applied to...of year seven is calculated. This value should be regarded as an estimate for the market price of a futures contract for delivery of the net cash inflows of the commercial venture... transformed explicit finite difference method (e.g., see Geske and Shastri |7
). The following input **variables** are to be **estimated** :
V(t) = the present value of the future cash inflows.
K(t) = the present value...

12/3,K/29 (Item 27 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

05915686 SUPPLIER NUMBER: 12460461 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A simulation comparison of actuarial and contingent claims models for unfunded pension liabilities.
Willinger, G. Lee

Quarterly Journal of Business and Economics, v31, n2, p72(26)
Spring, 1992
ISSN: 0747-5535 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 9997 LINE COUNT: 00816

... point in time over that long period, annual changes in the parameters or errors in **estimating** these parameters may occur. The **range** of values that can be specified annually for the model variables provides a further opportunity...Treasury bond rate is used because it is a virtually riskless long-term obligation. To **estimate** the shape and the **range** of the distribution of Treasury bond rates, annual returns (yields to maturity) reported on a...

...plus these raw returns were computed and plotted in the form of a histogram. The **range** of these **estimates** of the logarithms of the risk free market value of interest is 4.3 percent...
...ex ante estimate of the variance. This estimate is subject to error due to different **estimating** techniques and **changes** from year to year as new estimates are made. Therefore, a distribution for this sample...

...pension fund and the future retirement day value of accrued benefits will vary as the **market price** level varies so that the ratio of the underlying portfolio to be required future value...ln(M/B). Osborne (1959) presented evidence that stock price movements are similar to geometric **Brownian motion** . Geometric **Brownian motion** implies log-normality. Consistent with the Black-Scholes-Merton model, the simulations assume log-normality...of Money, Credit and Banking (March 1976), pp. 48-55. [34.] Osborne, M.F.W., " **Brownian Motion** in the Stock Market," Operations Research (March/April 1959), pp. 145-173. [35.] Reilly, F...

12/3,K/30 (Item 28 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

05915080 SUPPLIER NUMBER: 12471739 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A dynamical systems model of capital asset pricing.
Plath, D. Anthony; Krueger, Thomas M.; Jolly, Stephen A.
Mid-Atlantic Journal of Business, v28, n1, p55(20)
March, 1992
ISSN: 0732-9334 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 8424 LINE COUNT: 00708

... dynamics.
The distributional characteristics of equity returns have received widespread attention because past asset price **changes** might be useful in **predicting** future price movements. Early research efforts in this area, including Bachelier (1900) and Osborne (1959...assumptions. The temporal state space in these financial models, Z(t), represents a standard Brownian **motion** , while asset prices are assumed to be continuously observable. Merton (1973a) uses this framework to...its simplest form, catastrophe theory represents a series of mathematical statements which describe, explain, and **predict** discontinuities--or sudden and dramatic **changes** in a system under investigation. The strength of catastrophe theory lies in its ability to...
...a single element, k, while set C contains two variables, x and y.
The behavioral **variable** k represents a **measure** of the ex ante required returns associated with a broad-based portfolio of common stocks
...

...represent an appropriate model to characterize the system.
Consistent with this global perpective, the control **variables** x and y represent aggregated **measures** of phenomena affecting common stock returns. **Variable** x represents a **measure** of nonfundamental investor attitudes regarding equity investments, while variable y contains an aggregated description of...Distributions Hypothesis." Econometrica (March 1976), pp. 305-321. Fama, E. F. "The Behavior of Stock **Market Prices** ." Journal of Business (January 1965), pp. 34-105. --. Foundations of Finance. Basic (1976). -- and R...

...January 1988), pp. 7-8. Granger, C. W. J. and O. Morgenstern. Predictability of Stock **Market Prices** . Health Lexington Books (1970). Gregory-Allen, R. and G. Henderson Jr. "A Test of Catastrophe...Stock Returns." Journal of Financial Economics (December 1977), pp. 389-418. Osborne, M. E. M. " **Brownian Motion** in the Stock Markets." Operations Research (March-April 1959), pp. 145-173. Pari, R. and...
...University Press (1986). Savit, R. "When Random Is Not Random: An Introduction to Chaos in **Market Prices** ." The Journal of Futures Markets (June 1988), pp. 271-290. Scapens, R. W., R. J...

12/3,K/31 (Item 29 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

05209922 SUPPLIER NUMBER: 10966913 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Statistical and financial models of insurance pricing and the insurance firm.
Cummins, J. David
Journal of Risk and Insurance, v58, n2, p261(42)
June, 1991
ISSN: 0022-4367 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 17951 LINE COUNT: 01455

... Omitted] (50b) [Mathematical Expression Omitted] where [dz.sub.A], [dz.sub.L] = (possibly correlated) standard **Brownian motion** process for assets and liabilities, respectively.
Brownian motion is a type of stochastic process that has found wide application in finance.(24) Let...

...be the value of a stochastic process of time t. The process z(t) is **Brownian motion** if it satisfies several mathematical conditions. Two of the most important are the following (Karlin...

...variance depend upon the interval length, [Tau]. (2) Non-overlapping increments are statistically independent. Standard **Brownian motion** is a Brownian process with [Mu] = 0 and [Sigma.sup.2] = 1.
If a process S(t) follows **Brownian motion** with parameters [Mu] and [Sigma.sup.2], then any change in the process, e.g...

...Somewhat more formally, we can write: dS = [Mu] dt + [Sigma] dz, where z is standard **Brownian motion** . If the z term were not present, S would increase deterministically following a straight line...

...liability processes defined in equations (50a) and (50b). Most finance applications use a generalization of **Brownian motion** known as geometric **Brownian motion** , where it is the rate of change dS/S and not dS itself that is...

...dt + S [Sigma] dz. This is the form of the processes (50a) and (50b).

Geometric **Brownian motion** can be written as: S(t) = [e.sup.z(t)], where z(t) is a **Brownian motion** process. Rewriting, we have z(t) = ln[S(t)], so that increments of the natural...

...Between time 0 and time 1 (policy expiration), the asset and liability processes follow geometric **Brownian motion** (equations (50a) and (50b)). Specifically, losses grow at a (constant) rate, and are impacted by...net effect depends upon the relative sensitivity of assets and liabilities to the interest rate **changes** .

An important **measure** of interest rate sensitivity is the Macaulay duration (Macaulay (1938)). The duration can be understood...

...the discount factor.

The discrete time version of the duration formula can be used to **estimate** the asset price **change** resulting from a change in the yield rate, r.(28) This is the following formula...inflation. Also assume that the real rate of interest is constant. In this case the **market** price of liabilities is given by: (63) [Mathematical Expression Omitted] where [P.sub.L] = market value...our knowledge of the probability distribution of the increment z(t + [Tau]) - z(t). Thus, **Brownian motion** is a Markov process. (26) Of course, in practice states do not charge insurers risk...

12/3,K/32 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02032190 54869872
Issues in hedging options positions
Nandi, Saikat; Waggoner, Daniel F
Economic Review - Federal Reserve Bank of Atlanta v85n1 PP: 24-39 First Quarter 2000
ISSN: 0732-1813 JRNL CODE: ECR
WORD COUNT: 8799

...TEXT: vega hedging is what is known as delta-gamma hedging. The gamma of an option **measures** the rate of **change** of its delta with respect to a change in the price of the underlying asset...Why is it more useful? As discussed above, the hedge ratio, or the delta, which **measures** the rate of the **change** in option price with respect to the change in the price of the underlying asset...

...depending on the way they are designed, may result in prices that better match observed **market prices** . But do they necessarily result in better hedging performance? Four versions of the Black-Scholes...errors could include either in-sample errors that show how well the model values fit **market prices** or out-of-sample/predictive error.25 For example, ad hoc-2 yields substantially lower...the Black-Scholes-Merton formula that equates the model value of the option to its **market price** .

In-sample errors: Errors in fitting a model to data under a particular criterion function...

...criterion function, such as the sum of squared differences between the model values and the **market prices** ; this procedure is often called in-sample estimation. The differences between the model option values...

...is the level of volatility that equates the model value of the option to the **market price** of the option.

3. The fact that results reported in this article have been rounded known as the martingale representation property of **Brownian motions** (see Harrison and Pliska 1981).

9. However, with continuous trading, one can form a self...

...if the volatility of the stock is random. All that is needed is that the **Brownian motions** driving the stock price and the volatility are perfectly correlated (see Heston and Nandi forthcoming...

12/3,K/33 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01862107 05-13099
The term structure of probability of regime shift and derivatives on managed currencies
De Deus Oliveira, Rogerio
Derivatives Quarterly v5n4 PP: 55-59 Summer 1999
ISSN: 1081-3268 JRNL CODE: DRVQ
WORD COUNT: 1967

...TEXT: behavior of the currency after the (possible) regime shift. The simplest assumption is a geometric **Brownian motion** with high volatility. But, as noted in Oliveira [1999], because of the presence of fat...2. They are obtained by minimizing the square error between the analytic value and the **market prices** of the futures. As mentioned, the models should be judged by the stability of these...

...developed and successfully implemented at the trading desk level.

To avoid the issues associated with **change** of **measures** and risk premiums all stochastic process and probabilities in this article are assumed to be...

12/3,K/34 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01812768 04-63759
Financial pricing of insurance in the multiple-line insurance company
Phillips, Richard D; Cummins, J David; Allen, Franklin
Journal of Risk & Insurance v65n4 PP: 597-636 Dec 1998
ISSN: 0022-4367 JRNL CODE: JRI
WORD COUNT: 11510

...TEXT: specifies testable hypotheses. Descriptions of our data sample and definitions of the market-based risk **measures** and other **variables** needed to test the hypotheses follow. The equation specification, estimation methodology, and test results are...

...in separate asset accounts. The premium and equity accounts evolve over time as (correlated) geometric **Brownian motion** processes: (Formula Omitted)

(Formula Omitted)

(Formula Omitted)

Insurance pricing with unlimited liability. In the unlimited...Equation (26) is also estimated with the economic premium-to-loss ratio as the dependent **variable** .

The equations were **estimated** using our pooled time-series, cross-section sample of traded insurers for the period 1988...

...expected sign of this variable is negative. The reported regression results are based on the **variable** LPUTNT, which incorporates the daily **estimates** of the implied volatilities of the firms, adjusted for non-synchronous trading (SIGMANT). Regression results...value of the insolvency put variable is excluded, the coefficient of the insolvency put risk **variable** (LPUTNT) is negative, as **predicted** by the model, and statistically significant at the 1 percent level or better. Inclusion of...

...significant in all long-tail regressions, supporting Hypothesis 3 and suggesting the presence of a **market price** penalty for dispersion of business across members of insurance groups. The liability growth rate is ...capital by line. Using an option pricing framework, we show that the informationally-efficient, competitive **market price** of insurance for a given line of business depends on the overall risk of the...the ICAPM is a standard assumption often made in the finance literature to determine the **market price** of risk for the underlying optioned asset. In fact, the original Black-Scholes model (1973...

12/3,K/35 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01315172 99-64568
Practical issues of value-at-risk
Sharma, Jitendra
Corporate Finance Risk Management & Derivatives Yearbook 1996 Supplement
PP: 8-11 Apr 1996
ISSN: 0958-2053 JRNL CODE: COF
WORD COUNT: 2066

...TEXT: are then usually supplemented with stress or discrete scenarios that examine the impact of abnormal **market conditions** on the portfolio2.

The objective of the analysis is to **measure** the impact of **changes** in **market conditions** on the value of the hedges, assets, liabilities, revenues and expenses and ultimately the effect...

...since the academic literature is full of alternatives. The equations could range from simple geometric **Brownian motion** (as in Black-Scholes) for stock prices or exchange rates to multi-factor forward rate...

...Morton) for interest rates.
All the equations have to be anchored to current and expected **market conditions** . For example, the parameters of the interest rate equations chosen have to be implied from...

...intuitively simple. The discrete scenario approach can be used to construct scenarios that reflect extreme **market conditions** to stress-test ...complement to the other approaches. The analytical approach can also be used to construct extreme **market conditions** (by using five

or 10 standard deviations) and has the added advantage that correlations are...

...models.

In those markets, the parameters of the models can be calibrated to the current **market prices** of traded instruments, giving the models a forward-looking flavour. In many cases, however, one...and as such underestimate the likelihood of extreme outcomes. Hence, discrete scenarios that assume abnormal **market conditions** and extreme changes in **market prices** are used to supplement the analyses.

3 See Introduction to RiskMetrics, 3rd edition, March 15...

12/3,K/36 (Item 5 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01246175 98-95570
Implications of capital markets research for corporate finance
Shanken, Jay; Smith, Clifford W
Financial Management v25n1 PP: 98-104 Spring 1996
ISSN: 0046-3892 JRNL CODE: FMG
WORD COUNT: 5190

...TEXT: do not affect cash flows represent wasted effort. Third, if new securities are issued at **market prices** , which reflect an unbiased assessment of future payoffs, then concerns about dilution or the sharing ...

...might allow them to exploit their informational advantage, investors are "put on notice," and the **market price** should adjust. Moreover, a reputation for exploiting informational advantages at investors' expense is a liability...

...reduces managers' incentives to extract short-run gains.

For example, let's suppose that the **market price** of a stock is $25.00. Investors understand that the real value, if they had...reduced by nearly 4 percentage points using regression methods (see Shanken, 1990) that allow for **predictable changes** in conditional contrarian betas over time.4 Failure to take these important, but subtle, issues...

...of the project depends on the sensitivity of the cash flows to changes in overall **market conditions** : If very sensitive, the beta is high, and the discount rate should be substantially above...Bell Journal of Economics and Management Science (Spring), 141-183.

Osborne, M.F.M., 1959, " **Brownian Motion** in the Stock Market," Operations Research (March/April), 145-173.

Osborne, M.F.M., 1962, "Periodic Structure in the **Brownian Motion** of Stock Prices," Operations Research (May/June), 345-379.

Roll, R., 1977, "A Critique of...

12/3,K/37 (Item 6 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01030125 96-79518

A glossary of derivatives market terms

Anonymous

Corporate Finance Risk Management Yearbook PP: I-L 1995
ISSN: 0958-2053 JRNL CODE: COF
WORD COUNT: 52073

...TEXT: conditional heteroscedasticity, an econometric technique developed by Professor Robert Engle in 1982 to model random **variables** . It is an **estimation** procedure that allows a covariance matrix to change with time. It assumes that variance is...

...manner. This means that during periods in which there are large unexpected shocks to the **variable** , its **estimated** variance will increase, and during periods of relative stability, its estimated variance will decrease.

Arch...

...its long-term average. Several other variations exists, including Garch, AGarch, EGarch and QGarch.
Arithmetic **Brownian motion** : See Wiener process.

Arrears Rate Reset Swap: See Libor in arrears swap.

Asian option: See...or excess basis is the difference between the theoretical price of the future and its **market price** .

(ii) More generally, the relationship between prices/yields in related markets

(iii) The basis upon...binomial models is that they can deal with a range of different assets, options or **market conditions** . So, a lattice-based model gives rise to an algorithm rather than a closed formula...the hedged transaction was recognized) while written options would have to be marked-to-market.

Brownian motion : The archetypal random motion observed by botanist Robert Brown in 1828 of pollen grains in...derivative of price with respect to yield. It is a time-squared weighted average maturity **measure** and describes how duration **changes** with yield -- that is it describes the rate of change in the price of an...
...is measured by gamma. An option with positive (negative) convexity performs better (worse) than delta **predicts** for large **changes** in the underlying.

Correlation: A **measure** of the degree to which **changes** in two variables are related. Correlations between markets or products are important in hedging all...

...floater.

Coupon swap: See interest rate swap.

Coupon accrual swap: See accrual swap.

Covariance: A **measure** of how two random **variables** behave in relation to each other. Matrices of covariances are used in several different financial

Variance: The statistical **measure** of how widely a **variable** is dispersed around the mean.

Vega: The first derivative of the option premium with respect...

...maturity but a different strike price. See put spread, call spread, horizontal spread.

Volatility: The **measure** of a **variable** 's tendency to vary over time. This is crucially important in option pricing since the...

12/3,K/38 (Item 7 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00821233 94-70625
The yield curve and real activity
Hu, Zuliu
International Monetary Fund Staff Papers v40n4 PP: 781-806 Dec 1993
ISSN: 0020-8027 JRNL CODE: IMF
WORD COUNT: 4526

...TEXT: to formalize the link between the yield curve and real activity and examine the alleged **predictive** power of yield curve **variables** .

A number of studies have examined the relationship between short-term and long-term interest...

...structure can also be used to predict growth in real GNP.

This study documents the **forecasting** power of the yield curve variables for **predicting** gross domestic product in the Group of Seven (G-7) industrial countries. The paper sets...

...presents an intertemporal equilibrium model. In the empirical part of the paper, observed interest rate **variables** are used to **predict** future output growth. The model is built on the work of Merton (1973), Lucas (1978 ...

...Equation omitted), where F = {F sub t , t >= 0} is the filtration of a standard **Brownian motion** B. The consumption set C comprises those positive predictable processes c = {c sub t ,t...

...x (x, t) and sigma sub x (x,t) are predictable processes, and the standard **Brownian motion** , B sub t , is a martingale under the filtered probability measure.

The gross output in...aggregate production is smaller, all other things equal. This important relationship provides the basis for **forecasting** economic growth through interest rate **variables** .

Note that because of the logarithmic utility assumption, the covariance of the production process with...when testing the term structure model, because data over shorter horizons, such as one-quarter **changes** , likely contain more **measurement** error. The related evidence on stock returns (see Fama (1990b), for example) suggests that term...

...1 reports summary statistics for three time series: real GDP growth, yield spreads, and stock **market price** changes. (Table 1 omitted) The

standard deviations of the yield spreads are typically within one-half of the mean GDP growth rates. The stock **market price** changes are much more volatile than either GDP growth or the yield spreads. They exhibit...

...aligned so that if the GDP growth and financial time series coincide, then the financial **variables** are a perfect **forecast** of GDP growth. The individual figures suggest that the yield spread leads real output. This...

...stock market. In the 1920s, the Harvard "ABC" system pioneered the use of the stock **market price** as a main component of its "A" curve for tracking the business cycle. Today the...

...correlated with GDP, stock prices should contain information about GDP growth. However, because the stock **market price** is far more volatile than output, as can be seen by Figure 1, it is...Kingdom than the term structure model does. On balance, it seems that the yield spread **variable** has more within-sample **forecasting** power for real GDP growth than stock prices. Therefore, while Fischer and Merton (1984) claim that the stock **market price** is the single best predictor of the business cycle, the evidence documented here suggests that...
...has marginal forecasting power over stock prices, lagged output growth, and inflation. Indeed, stock price **changes** have almost no **forecasting** power for France, Germany, and Italy, while the yield spread has a strong ability to...

...model for France and Germany. For the United States, it appears that the two financial **variables** have about equal **forecasting** performance, but none of them can do better than the AR(1) model. The United...

...real GDP growth, can this relationship be used to forecast aggregate fluctuations via some easily **measured** term structure **variables** ? This paper made an attempt to formalize the link between the yield curve and real...

...short-term government bonds serves as a good predictor of future economic growth. This easily **measured variable** has more **forecasting** power than **changes** in stock prices, and it retains marginal **forecasting** power when other commonly used **variables** , such as lagged GDP growth, stock price changes, and inflation, are added to the regressions...

12/3,K/39 (Item 8 from file: 15)

00662158 93-11379
Time: The second dimension of risk
Holton, Glyn A
Financial Analysts Journal v48n6 PP: 38-45 Nov/Dec 1992
ISSN: 0015-198X JRNL CODE: FIA
WORD COUNT: 4588

...TEXT: of not assuming random walk behavior and the reasons for doing so.

WALKING RANDOMLY

Volatility **measures** the typical magnitude of **changes** in a time series. Changes in value are usually larger over long intervals than short...can have heavier tails than a normal distribution. See E. Fama, "The Behavior of Stock **Market Prices** ," Journal of Business, January 1965.

3. Investment A has a mean-reverting tendency. Investment C...

...Speculation (Paris: Gautbier-Vittais. 1900); translated in P. Cootner, ed., The Random character of Stock **Market** **Prices** (Cambridge: MIT Press, 1964).
6. M. Kendall, "The Analysis of Economic Time Series Part I...

...of The Royal Statistical Societ": 96 (1953), Part I, pp. 11-25.

7. M. Osborne, " **Brownian** **Motion** in the Stock Market," Operations Research, March-April 1959; A. Cowles, "A Revision of Previous...

...ed., The Random character of Stock Prices, op. cit,

10. Fama, "The Behavior of Stock **Market** **Prices** ," op. cit.

11. See Z. Bodie, "Common Stocks as a Hedge Against Inflation, "Journal of ...

...on Common Stocks, "Journal of Finance, May 1976

12. A. 10 and C. MacKinlay, "Stock **Market** **Prices** Do Not Follow Random Walks: Evidence From a Simple Specification Test," Review of Financial Studies...
?

14/3,K/1 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter

03868173 (USE FORMAT 7 OR 9 FOR FULLTEXT)
AUSTRALIAN NEWSPAPER HIGHLIGHTS - DEC 24, 1998
ASIA PULSE
December 24, 1998
JOURNAL CODE: WAPL LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 1174

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... A$199 million to repurchase a five per cent stake in Coles Myer held by **Capguard** Securities CML.
- Australian bond **prices** fell sharply after a decline in Japanese government bonds rocked global fixed interest markets and...

14/3,K/2 (Item 2 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter

03575401
Potential windfall for Lew in refinancing
Ivor Ries
ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (AUSTRALIAN FINANCIAL REVIEW)
, p5
November 27, 1998
JOURNAL CODE: WAFR LANGUAGE: English RECORD TYPE: ABSTRACT
WORD COUNT: 124

... Peat Group, both of whom will make a substantial profit from the higher unit issue **price** of **Capguard** Two over **Capguard** One

14/3,K/3 (Item 3 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter

03521268
Restructuring in the kingdom of Solomon
Bill Pheasant
ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (AUSTRALIAN FINANCIAL REVIEW)
, p11
November 21, 1998
JOURNAL CODE: WAFR LANGUAGE: English RECORD TYPE: ABSTRACT
WORD COUNT: 100

...at $A450m. The refinancing is understood to involve a change to the structure of the **CapGuard** unit trust. The share **price** of Coles Myer, the Australian retailer, closed at $A7.90 on 20 November, 1998

```
File 256:TecInfoSource 82-2005/Mar
         (c) 2005 Info.Sources Inc
File   2:INSPEC 1969-2005/May W2
         (c) 2005 Institution of Electrical Engineers
File  35:Dissertation Abs Online 1861-2005/Apr
         (c) 2005 ProQuest Info&Learning
File  65:Inside Conferences 1993-2005/May W3
         (c) 2005 BLDSC all rts. reserv.
File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Apr
         (c) 2005 The HW Wilson Co.
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 474:New York Times Abs 1969-2005/May 18
         (c) 2005 The New York Times
File 475:Wall Street Journal Abs 1973-2005/May 18
         (c) 2005 The New York Times
File 139:EconLit 1969-2005/May
         (c) 2005 American Economic Association

Set     Items   Description
S1          0   (MARKET()(CONDITION? ? OR PRICE? ?)(5N)(BROWNIAN()MOTION?))
S2      18006   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(TREND? ?
              OR CONGESTION?)
S3     215702   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(RANGE OR
              RANGES OR VARIABLE? OR CHANGE? ? OR SHIFT? ?)
S4          1   CAPGUARD?
S5        112   AU=(CRANE, G? OR CRANE G?)
S6         18   (MARKET()(CONDITION? ? OR PRICE? ?) AND (BROWNIAN()MOTION?-
             ))
S7          1   S6 AND (S2 OR S3)
S8         17   RD S6 (unique items)
S9         15   S8 NOT PY=2000
S10         0   S5 AND S1
?
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7/5/1 (Item 1 from file: 139)
DIALOG(R)File 139:EconLit

411247
TITLE: Financial calculus: An introduction to derivative pricing
AUTHOR(S): Baxter, Martin; Rennie, Andrew
PUBLICATION INFORMATION: Cambridge; New York and Melbourne: Cambridge University Press, PAGES: ix, 233
PUBLICATION DATE: 1996
ISBN: 0-521-55289-3
DOCUMENT TYPE: Book
ABSTRACT INDICATOR: Abstract
ABSTRACT: Provides an introduction to derivative pricing. Develops the ideas of hedging and pricing by arbitrage in the discrete-time setting of binary trees and introduces the key probabilistic concepts of conditional expectations, martingales, **change** of **measure** , and representations. Repeats the analysis in the continuous-time setting, covering **Brownian motion** and the Ito calculus needed to manipulate it and concluding with the derivation of the Black-Scholes formula. Considers a variety of actual financial instruments, such as dividend-paying equities, currencies, and coupon paying bonds, adapting the Black-Scholes approach to each. Addresses the **market price** of risk. Discusses the interest rate market, describing different models and detailing various interest rate contracts, including sways, caps/floors, and swaptions. Presents some technical results concerning larger and more general models, including multiple stock n-factor models, stochastic numeraires, and foreign exchange interest-rate models. Includes chapter exercises. Baxter is a research fellow at Pembroke College, Cambridge. Rennie is a quantitative analyst at the Union Bank of Switzerland. Glossary of technical terms; index.
DESCRIPTOR(S) (1991 to Present): Contingent Pricing; Futures Pricing; option pricing (G130)
DESCRIPTOR(S) (Pre-1991): Capital Markets--Empirical Studies, Including Regulation (3132); Capital Markets: Theory, Including Portfolio Selection, and Empirical Studies Illustrating Theory (3131)
COMPANY NAMES (DIALOG GENERATED): Pembroke College ; Union Bank of Switzerland
?

7/5/1 (Item 1 from file: 139)
DIALOG(R)File 139:EconLit

411247
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AUTHOR(S): Baxter, Martin; Rennie, Andrew
PUBLICATION INFORMATION: Cambridge; New York and Melbourne: Cambridge University Press, PAGES: ix, 233
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ABSTRACT INDICATOR: Abstract
ABSTRACT: Provides an introduction to derivative pricing. Develops the ideas of hedging and pricing by arbitrage in the discrete-time setting of binary trees and introduces the key probabilistic concepts of conditional expectations, martingales, **change** of **measure** , and representations. Repeats the analysis in the continuous-time setting, covering **Brownian motion** and the Ito calculus needed to manipulate it and concluding with the derivation of the Black-Scholes formula. Considers a variety of actual financial instruments, such as dividend-paying equities, currencies, and coupon paying bonds, adapting the Black-Scholes approach to each. Addresses the **market price** of risk. Discusses the interest rate market, describing different models and detailing various interest rate contracts, including sways, caps/floors, and swaptions. Presents some technical results concerning larger and more general models, including multiple stock n-factor models, stochastic numeraires, and foreign exchange interest-rate models. Includes chapter exercises. Baxter is a research fellow at Pembroke College, Cambridge. Rennie is a quantitative analyst at the Union Bank of Switzerland. Glossary of technical terms; index.
DESCRIPTOR(S) (1991 to Present): Contingent Pricing; Futures Pricing; option pricing (G130)
DESCRIPTOR(S) (Pre-1991): Capital Markets--Empirical Studies, Including Regulation (3132); Capital Markets: Theory, Including Portfolio Selection, and Empirical Studies Illustrating Theory (3131)
COMPANY NAMES (DIALOG GENERATED): Pembroke College ; Union Bank of Switzerland
? ds

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Set     Items   Description
S1          0   (MARKET()(CONDITION? ? OR PRICE? ?)(5N)(BROWNIAN()MOTION?))
S2      18006   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(TREND? ?
              OR CONGESTION?)
S3     215702   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(RANGE OR
              RANGES OR VARIABLE? OR CHANGE? ? OR SHIFT? ?)
S4          1   CAPGUARD?
S5        112   AU=(CRANE, G? OR CRANE G?)
S6         18   (MARKET()(CONDITION? ? OR PRICE? ?) AND (BROWNIAN()MOTION?-
             ))
S7          1   S6 AND (S2 OR S3)
? rd s6
...completed examining records
      S8       17  RD S6 (unique items)
? s s8 not py=2000
              17  S8
         1297293  PY=2000
      S9       15  S8 NOT PY=2000
? t s9/5/all
```

9/5/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

8280715 INSPEC Abstract Number: C2005-03-1290D-108
Title: Option pricing and trading with artificial neural networks and advanced parametric models with implied parameters
Author(s): Panayiotis, A.C.; Spiros, M.H.; Chris, C.
Author Affiliation: Dept. of Public & Bus. Adm., Cyprus Univ., Lefkosia, Cyprus
Conference Title: 2004 IEEE International Joint Conference on Neural Networks (IEEE Cat. No.04CH37541) Part vol.4 p.2741-6 vol.4
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2004 Country of Publication: USA 4 vol. (xlvii+3302) pp.
ISBN: 0 7803 8359 1 Material Identity Number: XX-2004-02253
U.S. Copyright Clearance Center Code: 0-7803-8359-1/04/$20.00
Conference Title: 2004 IEEE International Joint Conference on Neural Networks
Conference Date: 25-29 July 2004 Conference Location: Budapest, Hungary
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: We combine parametric models and feedforward artificial neural networks to price and trade European S&P500 Index options. Artificial neural networks are optimized on a hybrid target function consisted by the standardized residual term between the actual **market price** and the option estimate of a certain parametric model. Parametric models include: (i) the Black and Scholes model that assumes a geometric **Brownian motion** process (GBM); (ii) the Corrado and Su that additionally allows for excess skewness and kurtosis via a Gram-Charlier series expansion; (iii) analytic models that extend the GBM by incorporating multiple sources of Poisson distributed jumps; and (vi) stochastic volatility and jump models. Daily average implied parameters of these models are estimated with options transaction data via an unconstraint process optimized by the non-linear least squares Levenberg-Marquardt algorithm. This structural average implied parameters are used to validate the out-of sample pricing and trading (with transaction costs) ability of all models developed. (13 Refs)
Subfile: C
Descriptors: artificial intelligence; **Brownian motion** ; feedforward neural nets; least squares approximations; Poisson distribution; pricing
Identifiers: pricing; trading; feedforward artificial neural network; parametric model; geometric **Brownian motion** process; Poisson distributed jump; nonlinear least squares algorithm; **market price**
Class Codes: C1290D (Systems theory applications in economics and business); C1230D (Neural nets); C1140Z (Other topics in statistics); C4130 (Interpolation and function approximation (numerical analysis))

9/5/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

8034772 INSPEC Abstract Number: C2004-09-1290D-015
Title: Optimal dynamic portfolio selection for a corporation with controllable risk and dividend distribution policy
Author(s): Hojgaard, B.; Taksar, M.
Author Affiliation: Dept. of Math. Sci., Aalborg Univ., Denmark
Journal: Quantitative Finance vol.4, no.3 p.315-27

Publisher: IOP,
Publication Date: June 2004 Country of Publication: UK
CODEN: QFUIAV ISSN: 1469-7688
SICI: 1469-7688(200406)4:3L.315:ODPS;1-Y
Material Identity Number: G416-2004-004
U.S. Copyright Clearance Center Code: 1469-7688/04/030315+13$30.00
Document Number: S1469-7688(04)67307-6
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: This paper represents a model for risk management in a firm which exercises control of its risk as well as potential profit by choosing different business activities among those available to it. Furthermore, the firm has an option of investing its reserve in a financial market consisting of a risk-free asset (bond) and a risky asset (stock). The example we consider is that of a large corporation such as an insurance company, whose liquid assets in the absence of control and investments fluctuate as a **Brownian motion** with a constant positive drift and a constant diffusion coefficient. We interpret the diffusion coefficient as risk exposure, while drift is associated with potential profit. At each moment of time there is an option to reduce risk exposure, simultaneously reducing the potential profit, like using proportional reinsurance with another carrier for an insurance company. The company invests its reserve in a financial market, which is described by a classical Black-Scholes model. The management of the company also controls the dividend pay-outs to shareholders. The objective is to find a policy, consisting of investment strategy, risk control and dividend distribution scheme, which maximizes the expected total discounted dividends paid out until the time of bankruptcy. We apply the theory of controlled diffusions to solve the problem and show that there is a level u/sub 1/>0 such that the optimal action is to distribute all the reserve in excess of u/sub 1/ as dividends. Furthermore, there exists a constant x/sub 0/, with x/sub 0/<u/sub 1/, such that the risk exposure monotonically increases on (0,x/sub 0/) from zero to the maximum possible. The optimal choice of investments depends on the **market price** of risk m/sub p/ = (r/sub 1/-r/sub 0/)/ sigma /sub P//sup 2/, where r/sub 0/,r/sub 1/ denotes the mean rate of return of bond and stock respectively and sigma /sub P/ denotes the volatility of the stock price. We get the following results. (1) m/sub p/<or=0: invest everything in bond. (2) m/sub p/ is large: invest everything in stock. (3) m/sub p/ is small: there exists x/sub 0/<x/sub 1/<u/sub 1/, such that the optimal fraction of the reserve invested in stock is constant when the current reserve x is less than x/sub 0/ and it is an increasing function of x on [x/sub 0/,x/sub 1/] with all the reserve to be invested in stock whenever the reserve level exceeds x/sub 1/. (36 Refs)
Subfile: C
Descriptors: **Brownian motion** ; corporate modelling; insurance; investment; risk management
Identifiers: risk management; potential profit; business activities; financial market; risk free asset; bond; risky asset; stock; insurance company; liquid assets; **Brownian motion** ; risk exposure; proportional reinsurance; classical Black-Scholes model; controlled diffusions; dividends pay-out; HJB equation; singular control
Class Codes: C1290D (Systems theory applications in economics and business); C1140Z (Other topics in statistics); C1340G (Time-varying control systems)

9/5/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

7927307 INSPEC Abstract Number: A2004-10-0250-075, B2004-05-0240-029, C2004-05-1290D-205

Title: Study on option pricing in an incomplete market with stochastic volatility based on risk premium analysis

Author(s): Otaka, M.; Yoshida, T.

Author Affiliation: MTB Investment Technol. Inst. Co., Ltd., Tokyo, Japan

Journal: Mathematical and Computer Modelling vol.38, no.11-13 p. 1399-408

Publisher: Elsevier,

Publication Date: Dec. 2003 Country of Publication: UK

CODEN: MCMOEG ISSN: 0895-7177

SICI: 0895-7177(200312)38:11/13L.1399:SOPI;1-Q

Material Identity Number: L874-2003-013

U.S. Copyright Clearance Center Code: 0895-7177/03/$30.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We focus on an option pricing mechanism in a market, for which the underlying asset has a stochastic volatility. This model generally belongs to the class of incomplete market models, and hence, a no-arbitrage option price is not uniquely determined. However, in the actual market, options are traded at some price. This fact may suggest that the market participant compromises on the risk caused by stochastic volatility and that the balance of risk aversion of sellers and buyers determines the **market price** . To analyze this mechanism, we introduce a concept of the risk premium for stochastic volatility (RPSV) and develop a method to estimate the RPSV implied in actual option prices. In the method, homogeneous RPSV is not required to allow the segmentation of the market. Estimated RPSV of Nikkei 225 options are almost positive, and certainly depend on the strike price and time to maturity. (18 Refs)

Subfile: A B C

Descriptors: **Brownian motion** ; marketing; partial differential equations; pricing; probability; risk analysis; stochastic processes

Identifiers: option pricing mechanism; risk premium analysis; incomplete market models; no-arbitrage option price; sellers; buyers; **market price** ; risk premium for stochastic volatility; homogeneous RPSV; Nikkei 225 options; **Brownian motion**

Class Codes: A0250 (Probability theory, stochastic processes, and statistics); A0540 (Fluctuation phenomena, random processes, and Brownian motion); A0230 (Function theory, analysis); B0240 (Probability and statistics); B0290P (Differential equations (numerical analysis)); C1290D (Systems theory applications in economics and business); C1140 (Probability and statistics); C4170 (Differential equations (numerical analysis))

9/5/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

7340892 INSPEC Abstract Number: C2002-09-1290D-035

Title: The effect of non-ideal market conditions **on option pricing**

Author(s): Perello, J.; Masoliver, J.

Author Affiliation: Dept. de Fisica Fundamental, Barcelona Univ., Spain

Journal: Physica A vol.308, no.1-4 p.420-42

Publisher: Elsevier,

Publication Date: 15 May 2002 Country of Publication: Netherlands

CODEN: PHYADX ISSN: 0378-4371

SICI: 0378-4371(20020515)308:1/4L.420:EIMC;1-9

Material Identity Number: P010-2002-011

U.S. Copyright Clearance Center Code: 0378-4371/02/$22.00

Document Number: S0378-4371(02)00627-1

Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Option pricing is mainly based on ideal **market conditions** which are well represented by the geometric **Brownian motion** (GBM) as market model. We study the effect of non-ideal **market conditions** on the price of the option. We focus our attention on two crucial aspects appearing in real markets: the influence of heavy tails and the effect of colored noise. We will see that both effects have opposite and non-trivial consequences on option pricing. (30 Refs)
Subfile: C
Descriptors: **Brownian motion** ; commodity trading; economic cybernetics ; gamma distribution
Identifiers: option pricing; nonideal **market conditions** ; geometric **Brownian motion** ; heavy tails; colored noise
Class Codes: C1290D (Systems theory applications in economics and business); C1140Z (Other topics in statistics)

9/5/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

5129116 INSPEC Abstract Number: C9601-1290D-020
Title: Trading securities using trailing stops
Author(s): Glynn, P.W.; Iglehart, D.L.
Author Affiliation: Dept. of Oper. Res., Stanford Univ., CA, USA
Journal: Management Science vol.41, no.6 p.1096-106
Publication Date: June 1995 Country of Publication: USA
CODEN: MSCIAM ISSN: 0025-1909
U.S. Copyright Clearance Center Code: 0025-1909/95/4106/1096$01.25
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: In financial markets traders often protect their position from a significant decline by using a trailing stop. Assume the trader is long the market (owns the security). A trailing stop is an order to sell the security at the market, if the price of the security drops to the stop price. The stop price is always less than the **market price** when the stop is entered. As the price fluctuates, the stop is raised to remain a fixed distance from the maximum price at which the security trades. In this paper the authors consider two models for the price process: a discrete time random walk and continuous time **Brownian motion** , both with positive drift. For these price processes the authors compute the distribution, mean, and variance of the gain to the trader as well as the duration of the trade when a trailing stop strategy is used. Also discussed is the question of optimizing the distance from the current price to the stop. (11 Refs)
Subfile: C
Descriptors: **Brownian motion** ; differential equations; queueing theory ; securities trading
Identifiers: trailing stops; financial markets; discrete time random walk ; continuous time **Brownian motion** ; positive drift; price processes; distribution; mean; variance
Class Codes: C1290D (Systems theory applications in economics and business); C1140C (Queueing theory); C1120 (Mathematical analysis)

9/5/6 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01846919 ORDER NO: AADAA-INQ61213

Dynamic investment models with downside risk control

Author: Zhao, Yonggan
Degree: Ph.D.
Year: 2001
Corporate Source/Institution: The University of British Columbia (Canada) (2500)
Adviser: William T. Ziemba

Source: VOLUME 62/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 2838. 120 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508
ISBN: 0-612-61213-9

Mean-variance analysis has been broadly used in the theory and practice of portfolio management. However, the continuous analogy is not fully studied either academically or in practice. This thesis provides a similar efficient frontier to Markowitz (1952) and a general solution using martingale method employed in Cox and Huang (1989). Comparisons between the expected utility approach and the mean-variance analysis have been made.

Traditional utility maximization cannot be used for explicit risk control of downside losses. An adjusted investment objective function by the worst case outcome is incorporated in the investment model. The problem can be divided into two sub-problems as in Cox and Huang (1989). Closed form solution is derived for geometric **Brownian motion** and HARA utility setting. An interesting result is that the investor's decision is governed by a single "security"—a call option on a dynamic mutual fund.

A similar strategy, <italic>Risk Neutral Excess Return</italic> (RNER), to <italic>Portfolio Insurance</italic> is discussed. With geometric **Brownian motion** , the RNER strategy has a payoff structure similar to a straddle option strategy. Compare to the strategic asset allocation methods, such as Buy and Hold, Fixed Mix, and Portfolio Insurance, the new approach appears to be superior under a popular risk measure, <italic>Value at Risk</italic> (VaR).

A new objective function is defined for applying stochastic programming to financial investment under uncertainty. Incomplete **market conditions** are considered in implementing this model. The risk neutral probability is fully studied using stochastic programming techniques.

9/5/7 (Item 2 from file: 35)

01602925 ORDER NO: AAD98-07126

A STUDY OF COMMODITY FUTURES AND FUTURES OPTIONS PRICES (STOCHASTIC CONVENIENCE YIELDS, JUMP DIFFUSION)

Author: REIS, JORGE AZZE
Degree: PH.D.
Year: 1997
Corporate Source/Institution: UNIVERSITY OF GEORGIA (0077)
Director: JIMMY E. HILLIARD

Source: VOLUME 58/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 3249. 108 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

This study consists of three essays on pricing models of commodity

futures and futures options. The first essay theoretically investigates how the price of commodity forward contracts, futures contracts and futures options are affected by stochastic convenience yields, stochastic interest rates and jumps in the spot price process. The assumption of stochastic convenience yields greatly affects futures and forward prices. The assumption of aIl arbitrage-free stochastic interest rate model affects futures prices but not forward prices. The assumption of jumps in the spot price process does not affect forward or futures prices but can greatly impact the pricing of options. In the second essay, the **market prices** of commodity futures options are used to imply the probability distribution of commodity futures prices. A four-parameter generalization of Black's model is used and all four parameters are implied from options prices. Significant degrees of skewness and kurtosis are found for the implied distribution of commodity futures prices. The third essay investigates the performance of a jump-diffusion model to price out-of-sample options. The jump-diffusion model performs considerably better than the geometric **Brownian motion** model of Black. Jump-Diffusion Asian option prices are also shown to differ considerably from geometric **Brownian motion** Asian option prices.

9/5/8 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01591525 ORDER NO: AAD97-30948
ESSAYS IN CORPORATE FINANCE (DISCLOSURE, ASSET SUBSTITUTION, CLASS ACTION SUITS)
Author: GONG, NING
Degree: PH.D.
Year: 1997
Corporate Source/Institution: WASHINGTON UNIVERSITY (0252)
Chairman: PHILIP DYBVIG
Source: VOLUME 58/04-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1390. 94 PAGES
Descriptors: ECONOMICS, FINANCE ; LAW ; ECONOMICS, THEORY
Descriptor Codes: 0508; 0398; 0511

My Ph.D. dissertation consists of three essays. The first essay, titled "Litigation Risk and Corporate Financial Communications Policy," discusses corporate financial communications strategy, which minimizes litigation risk based on sharp stock price changes brought under SEC Rule 10b-5. I find that regularly scheduled, gradual, noisy information release is needed, but this strategy is inconsistent with full and prompt disclosure of all information as implied by Rule 10b-5 case law. The optimal ex ante disclosure policy is time inconsistent. However, time inconsistency may be resolved by a reputational effect if the management is patient enough in the infinitely repeated setting. Even if shares are correctly priced based on public information in the market, on-going communications between firms and the market may still be needed.

The second essay, "Managerial Choice of Cash Flow Volatility," challenges the well-known "Asset Substitution Proposition." Assume that a firm's cash balance follows a **Brownian motion** , the volatility of which is controlled by management acting in the interests of shareholders. Assume the existing debt has covenants which preclude additional borrowing and that bankruptcy is triggered when the cash balance hits zero. In the event of bankruptcy, some bankruptcy costs are sometimes borne by equity. Bankruptcy costs being borne by equity mitigates shareholders' desire for risk. I show that for low levels of debt, shareholders prefer to minimize the volatility of the cash balance. I also work out the critical face value of the debt above which shareholders are risk-seeking (desiring to maximize

the volatility of the cash balance) rather than risk-avoiding.

The third essay, "Cap on Recovery of Damages, Free Options, and Other Related Issues in Securities Fraud Cases",$\spl$ discusses damages and other related topics in the fraud-on-the-market cases in this paper. First, we analyze the impact of the cap on recovery specified in the recently passed "Private Securities Litigation Reform Act of 1995." We observe that the new law has not overcome the "free option" problem inherent in such cases when the award of damages depends on the **market price** . We then discuss an alternative method, a piece-wise linear award function, to calculate the damages award. The simulation results show that the new damages measure can fit the degree of the fraud better.
ftn$\spl$Co-authored with Philip H. Dybvig and Rachel Scwartz.

9/5/9 (Item 4 from file: 35)

01539461 ORDER NO: AAD97-14682
MARKET EFFICIENCY AND OPTION PRICING WITH GAUSSIAN TERM STRUCTURE OF INTEREST RATES

Author: SHIH, YIMIN
Degree: PH.D.
Year: 1996
Corporate Source/Institution: NORTHWESTERN UNIVERSITY (0163)
Adviser: MORTON KAMIEN
Source: VOLUME 57/11-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 4862. 104 PAGES
Descriptors: ECONOMICS, FINANCE ; BUSINESS ADMINISTRATION, ACCOUNTING ; ECONOMICS, GENERAL
Descriptor Codes: 0508; 0272; 0501

The main body of my dissertation consists of three chapters (chapter 2 through chapter 4) each dealing with a different topic yet all related to the notion of efficiency of the financial markets which plays a central role in asset pricing.

Chapter 2 investigates into the relationship between changes in overall market friction and changes in asset prices. Under the rather broad interpretation that market friction is the welfare loss to agents due to market deficiencies each time they trade, this chapter examines the structural effects of market friction on security prices and trade volumes in an equilibrium setting where investors are risk-neutral. I present a dynamic equilibrium model solved out in a closed form in which an ex-cost risk-neutral valuation of assets are obtained: the **market price** of a stock is a linear function of its fundamentals. All friction effects are contained in the coefficient. I find that if the market friction is structurally biased in buyer's favor in the sense that buyers incur marginal friction that increases (or decreases) at a slower pace than sellers do when both sides try to readjust their sizes of trade in the face of a shock in market friction, an increase (decrease) in the friction parameter in a given trading period will drive both the price and its volatility down (up). On the other hand, if the market friction is biased in sellers' favor, then an increase (decrease) in the friction parameter in a given period will push the prices up (down) along with its volatility. If the friction structure is "balanced", then there is no friction parameter effects on prices (and their volatility). Hence in the case of structural bias in favor of the buyers, a steady reduction in the friction parameters may result in a steady increase of equity prices as well as price volatility. In any case, trade volume falls in response to an increase in market friction.

Chapter 3 generalizes the continuous-time asset market beyond the

traditional framework of **Brownian motion** driven stock prices by replacing the **Brownian motion** process as the fundamental risk generating factors with square-integrable continuous martingales. It is found that markets that consist of a bond and equities are still efficient in the sense that markets are dynamically complete, risk-neutral valuation holds under some martingale measure and the markets are free of arbitrage.

Chapter 4 generalizes the Black-Schole's option pricing model by considering interest rate risks. I incorporate general Gaussian term structure into the short rate process and develops closed-form formulas of equity option valuation as well as bond prices with different maturities which define the term structure of economy-wide interest rates. By allowing free form of the coefficient functions in the linear stochastic differential equation that defines the short rate process, the popular models such as the Vasicek model, the Ho-Lee model as well as the Hull-White model are covered as special cases in my treatment.

9/5/10 (Item 5 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01411176 ORDER NO: AADAA-I9513505
WHEAT PRODUCERS AND THE FOOD SECURITY ACT OF 1985: PRODUCTION DISTORTIONS AND SUBSIDIZED SPECULATION

Author: WEST, JAMES EDWARD
Degree: PH.D.
Year: 1994
Corporate Source/Institution: THE UNIVERSITY OF MICHIGAN (0127)
Chair: THEODORE C. BERGSTROM
Source: VOLUME 56/01-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 305. 79 PAGES
Descriptors: ECONOMICS, FINANCE; ECONOMICS, AGRICULTURAL; POLITICAL SCIENCE, PUBLIC ADMINISTRATION
Descriptor Codes: 0508; 0503; 0617

The Food Security Act of 1985 presents wheat farmers with the following profit maximization problem: Six months prior to harvest, a wheat farmer must choose whether or not to participate in the farm program. If he chooses to participate, he must leave a proportion of his cropland unplanted. In return, he is compensated with three different types of subsidies, the value of which are stochastic but negatively related to the **market price** of wheat. If he chooses to remain outside the farm program, he faces no restrictions on the amount of wheat which can be grown, but risks loosing very generous subsidies if the **market price** of wheat is low.

The benefits and costs of participation in the farm program are calculated at the individual producer level for each year covered by the Food Security Act of 1985. Insurance values of program provisions are computed using integration over a statistical distribution of expected prices, and later a **Brownian motion** distribution of first crossing times. Using only information available to potential participants, the ex-ante value of participation in the farm program is found to be positive in four of the five years covered by the Food Security Act. Applying standard tools of microeconomic analysis, the farm program is found to have a theoretically ambiguous effect upon the number of acres planted to wheat at both the individual and aggregate level. Using county level data on program participation from 1986 through 1990, a model is developed to explain aggregate participation rates as a function of expected gain from participation, and change in cash flow from participating in the previous year. This model explains 79.1% of observed variation in farm program participation rates. The model is extended to forecast aggregate

participation rates under several alternative farm program benefit levels.

9/5/11 (Item 6 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01207163 ORDER NO: AAD92-00312
ESSAYS IN INTERNATIONAL FINANCE (PURE DIFFUSION MODEL)
Author: BEN-KHELIFA, ZOUHAEIR CHARFEDDINE
Degree: PH.D.
Year: 1991
Corporate Source/Institution: UNIVERSITY OF PENNSYLVANIA (0175)
Adviser: DAVID BATES
Source: VOLUME 52/10-A OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 3681. 132 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

The economics of option pricing in general and foreign currency options in particular are usually based on the assumptions of the Black and Scholes model where the returns on the underlying asset are assumed to follow a normal distribution. But how well does this model fit reality and how can it reveal alternate distributional choices?

We presume a geometric **brownian motion** for the exchange rate, investigate the type of distribution that might best portray reality, and finally provide a diagnosis across the different categories of options in the hope of uncovering unusual pricing patterns in the foreign currency option market.

We study systematic deviations of the Black and Scholes implied prices, adjusted for the early exercise premium, from observed option **market prices** . We try to draw conclusions on whether these deviations are characteristic of some other alternative exchange rate processes in that either the path of the underlying asset is not continuous through time or that the volatility of its rate of return is stochastic. This part also investigates the sort of problems which might arise from a data aggregation type of analysis such as the nonstationarity of the underlying distribution and presents an alternative methodology to circumvent them.

This paper studies default decisions in the international loan markets under stochastic exchange rates and uncertain future income. Because of the uncertainty in future income and exchange rate movements, there is a positive probability that a debtor cannot fulfill his obligations and consequently defaults. The motivation stems from the empirical evidence that debtors have the tendency to default when their currency is depreciating. The reason is that more capital is needed to pay the interest and that would obviously translate to giving up more consumption. (Abstract shortened with permission of author.)

9/5/12 (Item 1 from file: 139)
DIALOG(R)File 139:EconLit

731319
TITLE: The Normal Inverse Gaussian Distribution and Spot Price Modelling in Energy Markets
AUTHOR(S): Benth, Fred Espen; Saltyte-Benth, Jurate
AUTHOR(S) AFFILIATION: U Oslo and Agder U College; U Oslo and Klaipeda U
JOURNAL NAME: International Journal of Theoretical and Applied Finance,
JOURNAL VOLUME & ISSUE: 7 2,
PAGES: 177-92

PUBLICATION DATE: 2004
AVAILABILTY: http://www.journals.wspc.com.sg/ijtaf/ijtaf.shtml Publisher's URL
ISSN: 0219-0249
DOCUMENT TYPE: Journal Article
ABSTRACT INDICATOR: Abstract
ABSTRACT: We model spot prices in energy markets with exponential non-Gaussian Ornstein-Uhlenbeck processes. We generalize the classical geometric **Brownian motion** and Schwartz' mean-reversion model by introducing Levy processes as the driving noise rather than **Brownian motion** . Instead of modelling the spot price dynamics as the solution of a stochastic differential equation with jumps, it is advantageous from a statistical point of view to model the price process directly. Imposing the normal inverse Gaussian distribution as the statistical model for the Levy increments, we obtain a superior fit compared to the Gaussian model when applied to spot price data from the oil and gas markets. We also discuss the problem of pricing forwards and options and outline how to find the **market price** of risk in an incomplete market.
DESCRIPTOR(S) (1991 to Present): Contingent Pricing; Futures Pricing; option pricing (G130); Energy: Demand and Supply (Q410); Energy

9/5/13 (Item 2 from file: 139)
DIALOG(R)File 139:EconLit

579467
TITLE: Robust Hedging of Barrier Options
AUTHOR(S): Brown, Haydyn; Hobson, David; Rogers, L. C. G.
AUTHOR(S) AFFILIATION: U Bath; U Bath; U Bath
JOURNAL NAME: Mathematical Finance,
JOURNAL VOLUME & ISSUE: 11 3,
PAGES: 285-314
PUBLICATION DATE: 2001
AVAILABILTY: Publisher's URL
ISSN: 0960-1627
DOCUMENT TYPE: Journal Article
ABSTRACT INDICATOR: Abstract
ABSTRACT: This article considers the pricing and hedging of barrier options in a market in which call options are liquidly traded and can be used as hedging instruments. This use of call options means that market preferences and beliefs about the future behavior of the underlying assets are in some sense incorporated into the hedge and do not need to be specified exogenously. Thus we are able to find prices for exotic derivatives which are independent of any model for the underlying asset. For example we do not need to assume that the underlying assets follow an exponential **Brownian motion** . We find model-independent upper and lower bounds on the prices of knock-in and knock-out puts and calls. If the **market prices** the barrier options outside these limits then we give simple strategies for generating profits at zero risk. Examples illustrate that the bounds we give can be fairly tight.
DESCRIPTOR(S) (1991 to Present): Contingent Pricing; Futures Pricing; option pricing (G130)
KEYWORD DESCRIPTOR(S) (1991 to Present): Derivatives; Hedging; Options

9/5/14 (Item 3 from file: 139)
DIALOG(R)File 139:EconLit

411247
TITLE: Financial calculus: An introduction to derivative pricing
AUTHOR(S): Baxter, Martin; Rennie, Andrew
PUBLICATION INFORMATION: Cambridge; New York and Melbourne: Cambridge University Press, PAGES: ix, 233
PUBLICATION DATE: 1996
ISBN: 0-521-55289-3
DOCUMENT TYPE: Book
ABSTRACT INDICATOR: Abstract
ABSTRACT: Provides an introduction to derivative pricing. Develops the ideas of hedging and pricing by arbitrage in the discrete-time setting of binary trees and introduces the key probabilistic concepts of conditional expectations, martingales, change of measure, and representations. Repeats the analysis in the continuous-time setting, covering **Brownian motion** and the Ito calculus needed to manipulate it and concluding with the derivation of the Black-Scholes formula. Considers a variety of actual financial instruments, such as dividend-paying equities, currencies, and coupon paying bonds, adapting the Black-Scholes approach to each. Addresses the **market price** of risk. Discusses the interest rate market, describing different models and detailing various interest rate contracts, including sways, caps/floors, and swaptions. Presents some technical results concerning larger and more general models, including multiple stock n-factor models, stochastic numeraires, and foreign exchange interest-rate models. Includes chapter exercises. Baxter is a research fellow at Pembroke College, Cambridge. Rennie is a quantitative analyst at the Union Bank of Switzerland. Glossary of technical terms; index.
DESCRIPTOR(S) (1991 to Present): Contingent Pricing; Futures Pricing; option pricing (G130)
DESCRIPTOR(S) (Pre-1991): Capital Markets--Empirical Studies, Including Regulation (3132); Capital Markets: Theory, Including Portfolio Selection, and Empirical Studies Illustrating Theory (3131)
COMPANY NAMES (DIALOG GENERATED): Pembroke College ; Union Bank of Switzerland

9/5/15 (Item 4 from file: 139)
DIALOG(R)File 139:EconLit

299385
TITLE: Option Value of Emission Allowances
AUTHOR(S): Chao, Hung-Po; Wilson, Robert
AUTHOR(S) AFFILIATION: Electric Power Research Institute, Palo Alto; Stanford U
JOURNAL NAME: Journal of Regulatory Economics,
JOURNAL VOLUME & ISSUE: 5 3,
PAGES: 233-49
PUBLICATION DATE: September 1993
ISSN: 0922-680X
DOCUMENT TYPE: Journal Article
ABSTRACT INDICATOR: Abstract
ABSTRACT: We study the market for emission allowances stipulated in the 1990 Clean Air Act Amendment. We assume that the number of allowances is fixed and that demand is affected by a stochastic parameter that follows a Wiener process (' **Brownian motion**0 '). The optimal investment policy for scrubbers is characterized. Investments in

scrubbers are reduced if there is greater uncertainty about future **market conditions** . This is because purchases of emission allowances provide flexibility to adapt to demand conditions in a way that installing scrubbers does not. The price of emission allowances may therefore exceed the marginal cost of scrubbers by an amount called the option value. We derive an explicit formula for the option value and present computational results to illustrate its likely magnitude.

GEOGRAPHIC LOCATION DESCRIPTOR(S): U.S.

DESCRIPTOR(S) (1991 to Present): Renewable Resources and Conservation; Environmental Management: Water; Air (Q250); Electric Utilities (power plants) (L940)

DESCRIPTOR(S) (Pre-1991): Conservation and Pollution (7220); Natural Resources--General (7210); Industry Studies--Electrical, Gas, Communication, and Information Services (6352); Regulation of Public Utilities (6130)

?

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File 344:Chinese Patents Abs Aug 1985-2005/May
         (c) 2005 European Patent Office
File 347:JAPIO Nov 1976-2005/Jan(Updated 050506)
         (c) 2005 JPO & JAPIO
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200531
         (c) 2005  Thomson Derwent
File 348:EUROPEAN PATENTS 1978-2005/May W02
         (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050512,UT=20050505
         (c) 2005 WIPO/Univentio
File 331:Derwent WPI First View    UD=200530
         (c) 2005  Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.

Set     Items   Description
S1          0   (MARKET()(CONDITION? ? OR PRICE? ?)(5N)(BROWNIAN()MOTION?))
S2       3279   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(TREND? ?
              OR CONGESTION?)
S3     165229   (ESTIMAT? OR FORECAST? OR MEASUR? OR PREDICT?)(5N)(RANGE OR
              RANGES OR VARIABLE? OR CHANGE? ? OR SHIFT? ?)
S4          2   CAPGUARD?
S5         16   AU=(CRANE, G? OR CRANE G?)
S6         29   (MARKET()(CONDITION? ? OR PRICE? ?)AND (BROWNIAN()MOTION?))
S7         21   S6 AND (S2 OR S3)
S8          2   S5 AND S6
?
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7/3,K/1 **(Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

014716257 **Image available**
WPI Acc No: 2002-536961/200257
XRPX Acc No: N02-425262
Data analyzing method for assessing broadly traded market conditions , **involves comparing data range determined between minimum and maximum values during initial interval, to expected data range based on** Brownian motion
Patent Assignee: CAPGUARD.COM INC (CAPG-N)
Inventor: CRANE G C
Number of Countries: 101 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020073004	A1	20020613	US 2000736070	A	20001213	200257	B
WO 200248944	A1	20020620	WO 2001US48405	A	20011213	200257	
AU 200230856	A	20020624	AU 200230856	A	20011213	200267	
EP 1342196	A1	20030910	EP 2001991107	A	20011213	200367	
			WO 2001US48405	A	20011213		
BR 200116117	A	20031223	BR 200116117	A	20011213	200406	
			WO 2001US48405	A	20011213		
NZ 526552	A	20040326	NZ 526552	A	20011213	200425	
			WO 2001US48405	A	20011213		
JP 2004516554	W	20040603	WO 2001US48405	A	20011213	200436	
			JP 2002550583	A	20011213		
CN 1493047	A	20040428	CN 2001822010	A	20011213	200446	
ZA 200304601	A	20040929	ZA 20034601	A	20030612	200468	
AU 2002230856	B2	20041007	AU 2002230856	A	20011213	200480	

Priority Applications (No Type Date): US 2000736070 A 20001213
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020073004	A1		16	G06F-017/60	
WO 200248944	A1	E		G06F-017/60	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
AU 200230856	A			G06F-017/60	Based on patent WO 200248944
EP 1342196	A1	E		G06F-017/60	Based on patent WO 200248944
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
BR 200116117	A			G06F-017/60	Based on patent WO 200248944
NZ 526552	A			G06F-017/60	Based on patent WO 200248944
JP 2004516554	W		65	G06F-017/60	Based on patent WO 200248944
CN 1493047	A			G06F-017/60	
ZA 200304601	A		51	G06F-000/00	
AU 2002230856	B2			G06F-017/60	Previous Publ. patent AU 2002230856 Based on patent WO 200248944

Data analyzing method for assessing broadly traded market conditions , **involves comparing data range determined between minimum and maximum values during initial interval, to expected data range based on** Brownian motion

Abstract (Basic):

... initial interval. The obtained data range is compared with an expected data range based on **Brownian motion** .
... Provides a model of **market price change** activity for market assessment and **prediction** .

7/3,K/2 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01273923
SYSTEM FOR EVALUATING PRICE RISK OF FINANCIAL PRODUCT OR ITS FINANCIAL DERIVATIVE, DEALING SYSTEM, AND RECORDED MEDIUM
SYSTEM ZUM EVALUIEREN VON PREISRISIKEN VON FINANZIELLEN PRODUKTEN ODER IHRER FINANZIELLEN URSPRUNGE, HANDELSSYSTEM UND AUFZEICHNUNGSMEDIUM
SYSTEME D'EVALUATION DU RISQUE DE PRIX D'UN PRODUIT FINANCIER OU D'UN DERIVE FINANCIER DE CELUI-CI, SYSTEME DE TRANSACTION ET SUPPORT ENREGISTRE
PATENT ASSIGNEE:
KABUSHIKI KAISHA TOSHIBA, (213137), 72, Horikawa-cho, Saiwai-ku, Kawasaki-shi, Kanagawa 212-8572, (JP), (Applicant designated States: all)
INVENTOR:
UENOHARA, Yuji, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
YOSHIOKA, Ritsuo, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
ONISHI, Motohiko, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
TATSUMI, Takahiro, 9-11, Kaigan 1-chome, Minato-ku, Tokyo 105-0022, (JP)
OHASHI, Tadahiro, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
KAWASHIMA, Masatoshi, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
OKUDA, Hiroaki, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, (JP)
LEGAL REPRESENTATIVE:
HOFFMANN - EITLE (101511), Patent- und Rechtsanwalte Arabellastrasse 4, 81925 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1178416 A1 020206 (Basic)
WO 200116819 010308
APPLICATION (CC, No, Date): EP 2000955031 000825; WO 2000JP5755 000825
PRIORITY (CC, No, Date): JP 99242152 990827; JP 2000219655 000719
DESIGNATED STATES: DE; FR; GB; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G06F-017/60; G06F-019/00
ABSTRACT WORD COUNT: 270

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200206	2287
SPEC A	(English)	200206	25826
Total word count - document A			28113
Total word count - document B			0
Total word count - documents A + B			28113

...SPECIFICATION is independent of a past process. The Wiener process is often used to describe the **Brownian motions** of gas-molecules.

With variables of t (time) and z depending on the Wiener process...

...price, r is the non-risky interest rate, (sigma) is the volatility (i.e., the **predicted change** rate), and W is the normal distribution with the expectation value of zero (0) and...

...deviation of one (1).

The simplest example of the Ito's process is the geometric **Brownian motion** model of stock prices. With the geometric **Brownian motion** , equation (2) becomes here x is the natural logarithm of the stock price S.

The...prevent the user from suffering a loss due to overreactions to the fluctuations in the **market price** .

As the sixth embodiment of the present invention, a computer-readable recording medium storing a...

...normal distribution presumed by Black-Sholes equation;

Fig. 24 is a graph showing the price **change** probability **estimated** by the Boltzmann model, together with the logarithmic normal distribution used in Black-Sholes equation...a terminal of the dealing system, which displays a table of the implied volatility, the **market prices** for each delivery month, and each exercise price of stock index option, together with the...

...which displays, in graphs, information contained in the table, such as the implied volatility, the **market prices** of stock index options for each exercise price and each delivery month, using the stock...

...the arbitrary multi-term volatility shown in Fig. 44;

Fig. 46 illustrates a table with **market prices** and implied volatility values for the arbitrary multi-term delivery in the dealing system;

Fig...a numerical analysis function. With this function, the distribution setup unit 8 is capable of **estimating** the distribution of price **change** rate from the past data using a sigmoid function and its approximate function. Alternatively, the...

...using the price change rate of the previous day. The distribution setup unit 8 also **estimates** the distribution of the price **change** direction taking the correlation between the probability of price-up and the probability of price...model introduced into the present invention to conduct risk analysis for financial products can correctly **estimate** the price **change** probability distributions for the financial products with higher freedom than the conventional financial models.

Basically...

...order to discuss the one-dimensional and homogeneous problem applied to the financial field, the **Brownian motion** of a price for a single stock will be described hereafter. The direction is denoted...of how to evaluate the velocity distribution will be now explained. To apply the geometric **Brownian motions** , the natural logarithm of stock price is defined as x. This corresponds to the position...13 illustrates the relationship between the velocity v' and temperature T.

Next, an example of **estimating** the probability of the **change** direction for a financial product or the derivatives from the past records of that financial...is the price change rate (or volatility), and is the diffusion constant of the geometric **Brownian motion** model, in which the underlying price diffuses with respect to the logarithm of the price...

...the same, the appearances of the price change quite differ from each other. The geometric **Brownian motion** model C1 does not exhibit a big

price change, whereas the actual **market price** significantly varies as indicated by the curve C2. This comparison result leads to the conclusion ...

...average, the appearance of the daily earning rate C3 is still different from the geometric **Brownian motion** model (curve C1 in Fig. 20), as shown in Fig 21. If curve C3 is...near the center, and broadens towards the ends. Fig. 24 illustrates the probability of price **change estimated** from the Boltzmann model, in comparison with the logarithmic normal distribution of the Black-Sholes...sub-screen of the dealing terminal 105, which displays a table of implied volatility and **market prices** of each delivery month and each exercise price of stock index option together with the...delivery months circled with "a" in Fig. 46, which shows the implied volatility and the **market prices** , are traded in the market. However, there is no transaction of the option of the... options and currency options, the underlying assets of which exhibit a behavior of the geometric **Brownian motions** .

...CLAIMS or its derivatives from a market database storing information on financial products or derivatives, and **estimates** a distribution of the price **change** rate for the financial product or its derivatives using a Sigmoid function and its approximation form, and supplies the **estimated** distribution of the price **change** rate to the Boltzmann model analyzer.

5. The price and risk evaluation system according to...supplies a correlated probability density distribution to the Boltzmann model analyzer, correlated probability densities being **estimated** taking correlations between price **change** rate distributions and price change direction distributions into account for any financial products and their...

7/3,K/3 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

01213391
ENHANCED PARIMUTUEL WAGERING
PARI DU TYPE PARI MUTUEL AMELIORE
Patent Applicant/Assignee:
LONGITUDE INC, 2 Hudson Place, Hoboken, NJ 07030, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
LANGE Jeffrey, 3 East 84th Street, Apt. 3, New York, NY 10028, US, US (Residence), US (Nationality), (Designated only for: US)
BARON Kenneth Charles, 51 West 86th Street, Apt. 602, New York, NY 10024, US, US (Residence), US (Nationality), (Designated only for: US)
WALDEN Charles, 43 Glenwood Road, Montclair, NJ 07043, US, US (Residence), US (Nationality), (Designated only for: US)
HARTE Marcus, 389 Garretson Road, Bridewater, NJ 08807, US, US (Residence), IE (Nationality), (Designated only for: US)
Legal Representative:
WEISS Charles A (agent), Kenyon & Kenyon, One Broadway, New York, NY 10004, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200519986 A2 20050303 (WO 0519986)
Application: WO 2004US25434 20040806 (PCT/WO US04025434)
Priority Application: US 2003640656 20030813
Designated States:
(All protection types applied unless otherwise stated - for applications

2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 182513

Fulltext Availability:
Detailed Description

Detailed Description
... the portfolio on a dynamic basis by continually changing the composition of the portfolio as **market conditions** I 0 change. In general, the market maker strives to cover its cost of operation...

...derivatives prices to insure against the possibility that the valuation models may not adequately reflect **market** factors or other conditions throughout the life of the contract. In addition, risk management guidelines...

...as the Joe Jett/Kidder Peabody losses of 1994.

(8) Asymmetric Information: Derivatives dealers and **market** makers customarily seek to protect themselves from counterparties with superior information. Bid-offer spreads for...

...the market or auction.

"Demand-based market ... .. demand-based auction" may include, for exarnple@ a **market** or auction which is run or executed according to the principles set forth in the...another state in the same distribution, allows for the elimination of order-crossing and dynamic **market** maker hedging. Price-discovery in preferred embodiments of the present invention can be supported by...
...price at which the position was traded, will determine the investor's return. As the **market** -maker may not be able perfectly to offset buy and sell orders at all times...

...to zero. Such a system distributes the risk of bankruptcy away from the exchange or **market** -maker and among all the traders in the system. The system as a whole provides...Digital Options Exchange. The ninth section presents a structured instrument implementation of a demand-based **market** or auction. The tenth section presents systems and methods for replicating derivatives strategies using contingent...

...profits and at varying frequencies, including more frequently than daily.

(b) Market Efficiency and Fairness: **Market prices** reflect, among other things, the distribution of information available to segments of the participants transacting...or the limit order book, and frequently use this privileged information in order to set **market prices** that balance supply and demand at any given time in the judgment of the market

prices " or implied probabilities for the digital put and call options as displayed in Table 6...

7/3,K/4 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01197286
REPLICATED DERIVATIVES HAVING DEMAND-BASED, ADJUSTABLE RETURNS, AND TRADING EXCHANGE THEREFOR
PRODUITS DERIVES REPLIQUES A RENDEMENTS AJUSTABLES, BASES SUR LA DEMANDE, ET ECHANGES COMMERCIAUX ASSOCIES
Patent Applicant/Assignee:
LONGITUDE INC, Two Hudson Place, Hoboken, NJ 07030, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
LANGE Jeffrey, 3 East 84th Street, Apt. #3, New York, NY 10028, US, US (Residence), US (Nationality), (Designated only for: US)
BARON Kenneth Charles, 51 West 86th Street, Apt. #602, New York, NY 10024, US, US (Residence), US (Nationality), (Designated only for: US)
WALDEN Charles, 43 Glenwood Road, Montclair, NJ 07043, US, US (Residence), US (Nationality), (Designated only for: US)
HARTE Marcus, 389 Garretson Road, Bridgewater, NJ 08807, US, US (Residence), IE (Nationality), (Designated only for: US)
Legal Representative:
WEISS Charles A (et al) (agent), Kenyon & Kenyon, One Broadway, New York, NY 10004, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200503928 A2 20050113 (WO 0503928)
Application: WO 2004US4553 20040211 (PCT/WO US04004553)
Priority Application: US 2003365033 20030211
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 130069

Fulltext Availability:
Detailed Description
Detailed Description
... the portfolio on a dynamic basis by continually changing the composition of the portfolio as **market conditions** change. In general, the market maker striveito cover its cost of operation by collecting a...

...hedging of derivatives transactions to require markets to be liquid and to exhibit continuously fluctuating **prices** without sudden and dramatic "gaps." During periods of financial. crises and disequilibria, it is not ...

...against the possibility that the valuation models may not adequately

reflect market factors or other **conditions** throughout the life of the contract. In addition, risk management guidelines may require firms to...

...1) elimination of order-matching or crossing of the bid and offer sides of the **market** ; (2) reduction of the need for a **market** maker to conduct dynamic hedging and risk management; (3) more opportunities for hedging and insuring...When Invested Amounts are Large
Examples of Groups of DBAR Contingent Claims
3.1 DBAR **Range** Derivatives
3.2 DBAR Portfolios
Risk Calculations in Groups of DBAR Contingent Claims
4.1...

...preferred embodiments, a distribution of possible outcomes for an observable event is partitioned into defined **ranges** or states, and strikes can be established corresponding to measurable outcomes which occur at one...profits and at varying frequencies, including more frequently than daily.

(b) Market Efficiengy and Fairness: **Market** **prices** reflect, among other things, the distribution of information available to segments of the participants transacting...or the limit order book, and frequently use this privileged information in order to set **market** **prices** that balance supply and demand at any given time in the judgment of the market ...

...of contingent claims for the final closing price Vo are constructed by discretizing the full **range** of possible prices into possible mutually exclusive and collectively exhaustive states. The technique is similar...

...practice of the present invention. For example, it is quite common among derivatives traders to **estimate** volatility parameters for the purpose of pricing options by using the 70 econometric techniques such...level. Demand-based -.markets or auctions for economic products, however, provide market participants with a **market** **price** for the risk that a particular measure of economic activity will vary from expectations and ...auctions for DBAR contingent claims, including, for example, digital options can be based on a **measure** or parameter related to AOL EBITDA, such as the EBITDA figure reported by AOL that is used to provide a **measure** of operating earnings. The - 98 underlying event for these claims is the quarterly or annual...

...tend to enjoy two-fold benefits as interest rates decline in the fonn of positive **price** changes and increases in prepayment speeds. Converse penalties apply in events of increases in interest...

...be constructed to combine elements of "key person' 'insurance and the performance of the stock **price** of the company managed by the key person. Many firms are managed by people whom...

...can be constructed according to the present invention where the defined states reflect the stock **price** of Berkshire Hathaway conditional on Warren Buffet's leaving the firrn's management. Other conditional...

...underlying financial product, such as a quantity of foreign currency, for a specified rate or **price** , but only if, for example, the underlying exchange rate crosses or does not cross one...shares for each state and the exchange makes the conversion for the trader at the **market** **price** prevailing at the time of the investment. In this example, payouts are made according to...

7/3,K/5 **(Item 3 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT

01196779 **Image available**
METHOD FOR VALUING FORWARDS, FUTURES AND OPTIONS ON REAL ESTATE
PROCEDE DE VALORISATION DE CONTRATS A TERME, DE CONTRATS STANDARDISES, ET D'OPTIONS SUR DES BIENS IMMOBILIERS
Patent Applicant/Assignee:
GLOBAL SKYLINE LLC, 108 Carstairs Road, Valley Stream, NY 11581, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
ANDREW Hecht T, 500 West 43rd Street, Apt. 3K, New York, NY 10036, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
DAVIDSON Davidson & Kappel LLC (et al) (agent), 485 Seventh Avenue, 14th Floor, New York, NY 10018, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200503908 A2 20050113 (WO 0503908)
Application: WO 2004US20554 20040625 (PCT/WO US04020554)
Priority Application: US 2003483540 20030628; US 2003689833 20031020
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 18649

Fulltext Availability:
Detailed Description

Detailed Description
... so, by this date.

[01301
Theteri-n"at-the-moneyoption"asusedhereinmeansthatthestrikepriceoftheopti o-nis equal to the **market price** of the underlying security or commodity.
1 6
[01311
Theten-n"in-the-moneyoption"asusedhereinmeansanyoptionthathasintrinsicval ue...

...call option is out-of-the-money if the strike price is greater than the **market price** of the underlying security or commodity, and a put option is out-of-the-money,if the strike price is less than the **market price** of the underlying security or commodity.

(01331 The term "intrinsic value" as used herein means...

...make other distributions. This option pricing formula assumes the underlying stock price follows a geometric **Brownian motion** with

constant volatility.

In the original option pricing formula published by Black and Scholes, values...

...have positive deltas, while put options have negative deltas. Technically, the delta is an instantaneous **measure** of the option's price **change** , so that the delta will be altered for even fractional changes by the underlying entity...

...the rate at which an option loses its value as time passes, i.e., a **measure** of the rate of **change** in an option's theoretical value for a one-unit
,9@(dj)a Q(d2...

...formula for what the price of the call should be, a trader can compare the **market price** to determine if the call is overpriced or underpriced, and whether the call should be...

...binomial and Black-Scholes models: that stock prices follow a stochastic process described by geometric **Brownian motion** . As a result, for European options, the binomial model converges on the Black-Scholes formula...

...have current benchmark prices that are available to the public and accepted as the actual **market prices** .

Although the present invention is particularly applicable to commercial real estate, it should be appreciated...or forwards representing 3,000 square feet in the appropriate sector, thereby guaranteeing the current **market price** . If the current market for the sector is $133.33 per square foot ($400,000...

...ereby guaranteeing him or herself a price of $15 per square foot or the current **market price** . The converse is true for a business with an interest in industrial real estate that...

...in that sector by either buying futures or forwards in that sector. If the current **market price** for the hedge is $40 per square foot, he or she will go long futures...

...or her risk. If the call options were exercised by his tenants because the
32
market price went up, he would be able to close out his options position in order to...

7/3,K/6 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01186042 **Image available**
CONDITIONAL RATE MODELLING
MODELISATION DE TAUX CONDITIONNELS
Patent Applicant/Inventor:
CUMMING Andrew, 26 Westbourne Avenue, Wentworth Falls, NSW 2782, AU, AU (Residence), AU (Nationality)
Legal Representative:
HODGKINSON AND MCINNES (agent), Level 3, 20 Alfred Street, Milsons Point,

NSW 2061, AU,
Patent and Priority Information (Country, Number, Date):
Patent: WO 2004109566 A1 20041216 (WO 04109566)
Application: WO 2004AU770 20040610 (PCT/WO AU04000770)
Priority Application: AU 2003902883 20030610
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 40616

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... series at specified times, the several rate series having unconditional rate dynamics being mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** or a combination of the two, in
SUBSTITUTE SHEET (RULE 26)
several dimensions, each rate...

...more issuers, the unconditional dynamics of the specified zero coupon rate series being mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** , or a combination of the two, in several dimensions, the method comprising the steps of...

...bond issuers determining zero coupon rate spread series, having unconditional dynamics characterised by mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** , or a combination of the two, in several dimensions, the method comprising the steps ofspecifying ...

...are three rows, the first corresponding to the parametric model type of the rate series (**Brownian Motion** or Geometric **Brownian Motion**), the second row corresponding to the standard deviation of the rate changes per unit interval...

...pair of rate series, the correlation coefficient of the rate changes.

Conditional Rate Modelling: (Geometric) **Brownian Motion**
A stochastic process B = (Bt)tE: R is a one-dimensional **Brownian Motion** (BM) if there exist {L e R and a > 0 such that .

(1) B,, - B...
...t E R.

A stochastic process B = (Bt)tE R is a one-dimensional Geometric **Brownian Motion** (GBM) if (ln(BtDtE@ R is a one-dimensional **Brownian**

parametric model type of the several rate series together is **Brownian Motion** , Geometric **Brownian Motion** or a combination of the two. 39 A method according to claim 36 wherein one...

...series at specified times, the several rate series having unconditional rate dynamics being mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** or a combination of the two, in several dimensions, each rate series having at least...

...claim 54 wherein the parametric model type of each rate series is a mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** .

56 A method according to claim 54 wherein the standard deviations, long-term averages, speeds...

...more issuers, the unconditional dynamics of the specified zero coupon rate series being mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** , or a combination of the two, in several dimensions, the method
comprising the steps of...

...wherein the parametric model type of each specified zero coupon rate series is mean-revelting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** .

65 A method according to claim 63 wherein each of the trades in the bonds ...

...bond issuers determining zero coupon rate spread series, having unconditional dynamics characterised by mean-reverting **Brownian Motion** or mean-reverting Geometric **Brownian Motion** , or a combination of the two, in several dimensions, the method comprising the steps ofspecifying ...

7/3,K/7 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01144862
METHOD AND APPARATUS FOR AN INCOMPLETE INFORMATION MODEL OF CREDIT RISK
PROCEDE ET APPAREIL DESTINES A UN MODELE A INFORMATIONS INCOMPLETES DES RISQUES DE CREDIT
Patent Applicant/Assignee:
BARRA INC, 2100 Milvia Street, Berkeley, CA 94704, US, US (Residence), US (Nationality)
Inventor(s):
GOLDBERG Lisa Robin, 114 Ardmore Road, Kensington, CA 94704, US,
GIESECKE Kay, 237 Rhodes, Cornell University, Ithaca, NY 14853, US,
Legal Representative:
GLENN Michael A (et al) (agent), Glenn Patent Group, 3475 Edison Way, Suite L, Menlo Park, CA 94025, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200466102 A2 20040805 (WO 0466102)
Application: WO 2004US1920 20040120 (PCT/WO US04001920)
Priority Application: US 2003440943 20030117; US 2003505532 20030923
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO
RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 12220

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... first passage time modeling; 2. Implementing the firm value prior to default as a geometric **Brownian motion** model; and
3. Defining the default barrier as distributed, and, specifically as a scaled beta...
...Incomplete information models provide a way to incorporate both these ideas.

Giesecke and Goldberg,The **market price** of credit risk, working paper, Cornell University(2003), and Giesecke and Goldberg, The **market . price** of credit risk, U.S.

Patent Application No. 60/505,532 filed Sept. 23, 2003...

...of the credit risk premium and implied recovery rates can be disentangled and extracted from **market prices** of defaultable securities.

Thus, they can be integrated into portfolio risk forecasts and hedged separately...

...a complicated set. However, there is an upward trend that makes the situation tractable. This **trend** can be used to **estimate** default probabilities and to value credit-sensitive instruments.

Following is a description of the situation...and are thus risk-neutral probabilities. The theory given here, combined with estimates for the **market price** of risk, can yield actual probabilities. The smallest probabilities are generated by the Merton (1974...

Claim
... conditional default process to determine a compensator and pricing 1 0 trend;
with said pricing **trend** , performing any of:
estimating default probabilities; and
valuing credit-sensitive securities; and
outputting to said investor a term structure...

...not publicly known;
providing capability for representing a predefault firm value process by a
geometric **Brownian motion** ; and

using a history of fundamental data and other publicly available information in determining a...

...default process to determine a compensator and pricing trend; comptuer means for using said pricing **trend** to perform any of: **estimating** default probabilities; valuing credit-sensitive securities; and computer means for outputting to said investor a...
...is not publicly known; capability for representing a predefault firm value process by a geometric **Brownian motion** ; and means for using a history of fundamental data and other publicly available information in...

...pricing trend; computer readable program code means for causing the computer to use said pricing **trend** , performing any of: **estimating** default probabilities; and valuing credit-sensitive securities; and computer readable program code means for causing...

...the computer to provide capability for representing a predefault firm value process by a geometric **Brownian motion** ; and computer readable program code means for causing the computer to use a history of...

7/3,K/8 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01086144 **Image available**
ASSETT PRICING OF DERIVATIVES OF NON-MARKETED VARIABLES
METHODE PERMETTANT D'ATTRIBUER UN PRIX A UN ACTIF QUI EST UN DERIVE D'UNE VARIABLE NON MARCHANDE
Patent Applicant/Inventor:
LUENBERGER David G, 813 Tolman Drive, Stanford, CA 94305, US, US (Residence), US (Nationality)
Legal Representative:
ALBOSZTA Marek (et al) (agent), Lumen Intellectual Property Service, 2345 Yale Street, Suite 200, Palo Alto, CA 94306, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200408274 A2-A3 20040122 (WO 0408274)
Application: WO 2003US21585 20030711 (PCT/WO US03021585)
Priority Application: US 2002395715 20020712
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
Publication Language: English
Filing Language: English
Fulltext Word Count: 13062

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... price of risk, which is applicable to all derivatives of a non-marketed variable.

The **market price** is difficult to measure, but it has sometimes been estimated 181.

However, even if the **market price** of risk is known, it does not lead to a hedging strategy.

Overall, there has...

...termed the underlying variable. If this variable is itself traded (and is governed by geometric **Brownian motion** (GBM)), then the asset of interest is a pure derivative and the standard Black-Scholes...industry productive capacity, or estimates on the probability that certain legislation will be passed.

5. **Estimation variables** . A suitable non-marketed but observed **variable** may be the **estimate** of an unobserved **variable** that serves as the underlying **variable** for the payoff. If the **estimate** converges to the actual value at the time of payoff, the estimate may be used at all points instead of the original **variable** . For example, the best **estimate** for yearly revenue may converge to the actual figure as the year ends.

6. Non...

...up) to define the problem. Hence, we have an underlying variable x, governed by geometric **Brownian motion** (GBM) over 0 < t < T as
dx, = /J,,x,dt + UeXedze, (17)
and likewise there...

...logarithm of the payoff. Geometric matching is a natural choice for processes governed by geometric **Brownian motion** . Additive matching is frequently used for discrete-time models. A binomial model for one of...

Claim
... marketed variables, and wherein xe and the multiple marketed variables are governed by either geometric **Brownian motion** or alternative processes.

21 A computer-implemented method of pricing a financial derivative of a ...

7/3,K/9 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01071606
CONSTANT LEVERAGE SYNTHETIC ASSETS
ACTIFS SYNTHETIQUES A EFFET DE LEVIER CONSTANT
Patent Applicant/Inventor:
HYLTON Ronald, 100 West 89th Street, Apartment Number 7A, New York, NY 10024, US, US (Residence), US (Nationality)

Legal Representative:
HOPKINS Brian P (agent), Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., 666 Third Avenue, New York, NY 10017, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 2003100698 A2 20031204 (WO 03100698)
Application: WO 2003US16904 20030528 (PCT/WO US0316904)
Priority Application: US 2002383722 20020528; US 2003421261 20030423
Parent Application/Grant:
Related by Continuation to: US 2002383722 20020528 (CON); US 2003421261 20030423 (CON)
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 13923

Fulltext Availability:
Detailed Description

Detailed Description
... and puts, shorting of securities and purchasing securities on margin to create returns in different **market conditions** .

Currently, for example, investors using margin accounts are able to leverage their accounts to purchase...

...maturity changes or the implied volatility of the option or the relevant interest rate or **estimated** dividends **change** .

For example, an investor uses $ 1 00 cash and buys $200 worth of stock in ...

...delivery of an asset at a specified price, on a specified future date.

Gamma: a **measurement** of how fast delta **changes** , given a unit change in the underlying security price.

Index: a statistical indicator providing a...

...be the value of a log-normal asset (e.g., an asset undergoing instantaneous geometric **Brownian motion** - see Appendix A) having a volatility a and a yield q. Let r be a...those documents may be selected for the present invention and embodiments thereof.

Appendix A - Geometric **Brownian Motion**
A stochastic variable X representing an asset price is said to undergo geometric
Brownian motion if it follows the process
dX / X dt + a dz,
where dz is a standard **Brownian motion** and [t and (F may be functions of time and state variables (including X). Risk...

...asset" above refers to assets whose prices are commonly or usefully modeled as undergoing geometric **Brownian motion** .

7/3,K/10 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01064757 **Image available**
VALUING AND OPTIMIZING SCHEDULING OF GENERATION ASSETS
EVALUATION ET OPTIMISATION DES PREVISIONS EN MATIERE D'EQUIPEMENTS DE PRODUCTIONS D'ENERGIE
Patent Applicant/Assignee:
CAMINUS CORPORATION, 825 Third Avenue, New-York, NY 10022, US, US (Residence), US (Nationality)
Inventor(s):
MASIELLO Ralph D, 6767 Phillips Mill Road, P.O. Box 182, Solebury, PA 18963, US,
MANOLIU Mihaela, 311 Hornidge Road, Mamaroneck, NY 10543, US,
SKANTZE Petter, 235 East 95th Street, Apt. 17E, New York, NY 10128, US,
Legal Representative:
ROCCI Steven J (agent), Woodcock Washburn LLP, One Liberty Place, 46th Floor, Philadelphia, PA 19103, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200394414 A2-A3 20031113 (WO 0394414)
Application: WO 2003US8367 20030319 (PCT/WO US03008367)
Priority Application: US 2002377709 20020503; US 2003336541 20030102; US 2003336542 20030102
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 32835

Fulltext Availability:
Detailed Description

Detailed Description
... of generation of the facility. For example, for a fuel powered electrical generation facility, the **market price** path for fuel over the period of time can influence optimal scheduling. In addition, the **market price** path, over the period of time, for electricity, as generated by the facility, can also...

...best an operator can do is to use presently available information for stochastic projections, or **forecasts** , of price paths or other **variables** , I 0 which can include, for example, a forecasted price path and a specified projected...path information such as one or more forward or forecasted price paths, such as forecasted **market price** paths, for

one or more goods or services, such as commodities, e.g., ftiel and...

...powered electrical energy or power generation facility, the price path information can include a forecasted **market price** path for one or more types of fuel used by I 0 the facility as well as a **market price** path for electrical energy or power.

[001181 The constraint database 104 contains constraint information specifying...

...and modeling methods," "Optimization for the deterministic case," "Stochastic Price Model ... .. Trinomial Tree Model of **Market Price** UncertainLy," "Optimization algorithm for the stochastic case ... .. Outputs Returned by the Stochastic Optimization Algorithm," "Extracting ...of a generation asset, with detailed modeling of costs and physical constraints as well as **market price** uncertainty; (2) an integration of the real option model with a Monte Carlo simulation engine...

...user with the optimal dispatch decision for the asset as a function of the observed **market prices** in that hour. By combining this decision rule with a Monte Carlo engine for simulating...

...sold out of any given generator is assumed to have no effect on the overall **market price** of electricity. In reality, the lack of depth in the power markets can impose significant...

...in order to modify the inputs to the real option m6del (either the costs or **market prices**) to maximize the profit captured in the simulated dispatch cases. This approach has the advantage...

...into a second commodity (electricity) at a technology dependent conversion rate (the heat rate). As **market prices** for the two commodities vary, this conversion may be either profitable (the generator is said...

...operating schedule for a generator, according to one embodiment of the invention.

Optimization Under Uncertain **Market Conditions**
[001861 The scheduling optimization algorithm assumes that the operator of the asset has an exact...

...the following types of risk-neutral processes for the spot price are considered.

(i) Geometric **Brownian motion** process with constant volatility (k(t) = 0 and a(t) = c =constant).

(ii) Mean-reverting...

...T
-fk(s)ds
or(t, T) = c(t)e I
Trinomial Tree Model of **Market Price** Uncertain
[001931 As with the decision states, it is needed to discretize the space of...

...detailed information, including: (1) a decision rule for how do dispatch the plant under different **market prices** ; (2) an hour by hour forecast of the expected output of the quantity of power...

...the asset which are not under direct control of the operator, nor a function of **market price** uncertainty. Specifically, generation assets are subject to forced outages, periods where the generator is unavailable ...described for arriving at optimal decision rules for a generator given a set of uncertain **market conditions** . The decision rules are designed to maximize the expected net profit earned from the asset...

...some embodiments, the market model is a model describing the uncertain 1 5 behavior of **market prices** . Also, for illiquid markets, the market model provides a description of the impact of a market participant's actions on the **market price** or prices.

The Asset Qptimization Algorithm
[002261 In some embodiments, the asset optimization algorithm provides...

...R Th'
Xh
N
Qh
LRTh' j
The effect of the dispatch decisions on the **market price** is captured by summing the quantity
states over all the generators,
N
Total Q i...

...a group of generators located in the same area, and therefore exposed to the same **market prices** . I 0 Each individual generator is characterized according to the plant module, accounting for its...

...be price takers, the effect must be considered of the total production schedule on the **market price** . This effect is characterized by the liquidity function. As described in the previous section, the...

7/3,K/11 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01056423 **Image available**
DERIVATIVES HAVING DEMAND-BASED, ADJUSTABLE RETURNS, AND TRADING EXCHANGE THEREFOR
PRODUITS DERIVES PRESENTANT DES RENDEMENTS AJUSTABLES BASES SUR LA DEMANDE ET ECHANGES COMMERCIAUX ASSOCIES
Patent Applicant/Assignee:
LONGITUDE INC, 650 Fifth Avenue, New York, NY 10019, US, US (Residence), US (Nationality)
Inventor(s):
LANGE Jeffrey, 3 East 84th Street, Apt. 3, New York, NY 10028, US,
BARON Kenneth, 51 West 86th Street, Apt. 602, New York, NY 10024, US,
Legal Representative:
WEISS Charles A (et al) (agent), Kenyon & Kenyon, One Broadway, New York, NY 10004, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200385491 A2-A3 20031016 (WO 0385491)
Application: WO 2003US7990 20030313 (PCT/WO US03007990)
Priority Application: US 2002115505 20020402
Designated States:
(Protection type is "patent" unless otherwise stated - for applications

prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 136258

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... the portfolio on a dynamic basis by continually changing the composition of the portfolio as **market conditions** change. In general, the market maker strives to cover its cost of operation by collecting...

Claim
... and at varyi

ng frequencies, including more frequently than daily. (b) Market Efficiency and Fairness: **Market prices** reflect, among other things, the distribution of information available to segments of the participants transacting in the **market** . In most markets, some participants will be better informed than
others. In house-banking or...or the limit order book, and frequently use this privileged information in order to set **market prices** that balance supply and demand at any given time in the judgment of the market ...

...In each of the examples in this Section, a state is defined to include a **range** of possible outcomes of an event of economic significance. The event of economic significance for...

...the trading period. Referring back to the illustration assuming two multi-state trades over the **ranges** (0,83] and (86.5,oo) for MSFr stock, Table 3 1-2 shows how...
...goal of delivering the desired payouts to the trader, two payouts for the (0, 83] **range** are considered. The payout, if constituent - 66 state (80.5, 8 1] occurs, is the...

...when convergence is achieved, further iteration and reallocation among the multi-state investments do not **change** any multi-state allocation, and the entire distribution of amounts invested across the states remains ...level. Demand-based markets or auctions for economic products, however, provide market participants with a **market price** for the risk that a particular measure of economic activity will vary from expectations and...

...the health care industry. Similarly, the semiconductor book-to-bill ratio serves as a direct **measure** of activity in the semiconductor equipment manufacturing industry. The
Z:)
ratio reports both shipments and...of premium investment. Premiums

invested are based on the trader's assessment of likely stock **price** (and price multiple) reaction to a possible earnings surprise. Similar trades in digital options on...

...newly originated loans that lack a prepayment history. Market conventions tend to assign lower volatility **estimates** to the correlation of prepayment **changes** in seasoned pools for given interest rate changes, than in the case of newer pools...shares for each state and the exchange makes the conversion for the trader at the **market price** prevailing at the time of the investment. In this example, payouts are made according to...

...by having a marketmaker sell the stock when it reaches a certain price below the **market price** . Such stop-loss orders are notoriously difficult to execute in traditional markets, and traders are...Moreover, the limited liquidity available to NDFs is generally insufficient to support an active options **market** . Groups of DBAR contingent claims can be structured using the system and methods of the...

...cannot accommodate the full volumes that investment managers would like to execute at a given **market price** . Groups of DBAR contingent claims can be structured using the system and methods of the...

...using the methods and systems of the present invention to provide market participants with a **market price** for the probability that a particular weather metric will be above or below a given...
...event can also be defined using an alternative measure, such as the volume weighted average **price** during any day. DBAR contingent claims on government and municipal obligations can be traded in...

...alternative measure, such as the volume weighted average price during any day. Alternatively, other index **measurements** can be used such as return instead of price. SwMsj Demand-based markets or auctions...

...the magnitude of change in the underlying stocks as well as the correlations between such **changes** . A statistical **estimate** of these expected **changes** and correlations can be made in order to compute expected returns and payouts during trading...

...Such risks can include market risk and credit risk, which are discussed below.
4.1 **Market** Risk
Market risk calculations are typically performed so that traders have information regarding the probability...acceptable percentile of loss in the fifth percentile, assuming a normal distribution; and (viii) the **estimated** correlation of the price **changes** of EBM and GM is .5 across the distribution of states for each stock. Steps...
...to Step (5), a correlation matrix Ce with two rows and two columns, is either **estimated** from historical data or obtained from some other source (e.g., RiskMetrics), as known - 133...

...one of skill in the art. Consistent with the assumption for this illustration that the **estimated** correlation between the price **changes** of EBM and GM is 0.5, the correlation matrix for the underlying events is...

...to repay margin loans for losing investments. For example, a multivariate statistical distribution to be **estimated** might assume that **changes** in the market events and credit ratings or classifications are jointly normally distributed. Estimating such a distribution would thus

market price above the limit price. With the addition of these lots, the new **market prices** are:
168
Table 6 5
MSFT Digital Options
Prices after addition of five lots of...

...which have previously been filled
whose limit "prices" are now less than the current mid- **market " prices** ," and as such, should be subtracted. Since there are no orders than have been filled...

...identify another order which 1 5 has a limit "price" higher than the current mid- **market " prices** " as a candidate for lot addition. Such a candidate is the order for 10000 lotsrecalculated mid **market " price** " exceed the order's limit price of Using this method, it
can be determined that only one lot can be added without forcing the new **market " price** " including the additional lot above The new prices with this additional lot are then:
169...

...an order whose limit 4 &price" is now worse (i.e., lower than) the mid- **market " prices** " from the most recent equilibrium calculation as shown in Table 6 6. As can be seen from the table, the mid- **market " price** " of the 80 digital put options is now
The best limit order (highest "priced") is...

...order's limit "price" is no longer worse (i.e., lower than) the newly recalculated **market " price** ." This is the removal or prune part of the equilibrium calculation.
The "add and prune...

...relates the amount of relative volumes that may clear in equilibrium to the relative equilibrium **market prices** . Thus, a demand-based market microstructure, which is the foundation of demand-based market or...
...order be executed, the order's limit price is greater than or equal to the **market price** including the executed order. According to the second constraint, the order's executed notional amount...

...1, 2, ..., n
Definition: g =
B*p -w
Note B*p is the vector of **market prices** for order j denoted by 7cj
g is the difference between the **market prices** and the limit prices
- 177
.2 Elements of Example DBAR DOE Embodiment
In this embodiment...

7/3,K/12 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01004309 **Image available**
METHOD AND SYSTEM FOR PRICING FINANCIAL DERIVATIVES
PROCEDE ET SYSTEME PERMETTANT DE FIXER LE PRIX D'INSTRUMENTS FINANCIERS DERIVES
Patent Applicant/Assignee:

SUPERDERIVATIVES INC, c/o Holland & Knight LLP, 195 Broadway, New York, NY 10007, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
GERSHON David, 4 Sloan Gardens, London SW1 W8DL, GB, GB (Residence), IL (Nationality), (Designated only for: US)
Legal Representative:
YONAY Guy (et al) (agent), Eitan, Pearl, Latzer & Cohen-Zedek, 2 Gav Yam Center, 7 Shenkar St., POB 12688, Herzlia 46733, IL,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200334297 A1 20030424 (WO 0334297)
Application: WO 2001IB1941 20011013 (PCT/WO IB0101941)
Priority Application: WO 2001IB1941 20011013
Designated States:
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM EE ES FI GB GD GE HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
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Publication Language: English
Filing Language: English
Fulltext Word Count: 16925

Fulltext Availability:
Detailed Description
Claims

English Abstract
...of parameters defining the option, receiving second input data corresponding to a plurality of current **market conditions** relating to the underlying value, computing a corrected theoretical value (CTV) of the option based...

Detailed Description
... on the current exchange rate (spot) for that currency. If the spot (i.e., current **market**) **price** is lower than the strike price, the holder may choose not to exercise the call...a presumption that the change in the rate of the asset generally 5 follows a **Brownian motion** , as is known in the art. Using such **Brownian motion** model, known also as a stochastic process, one may calculate the theoretical price of any...at the time of the option expiry. Each path is discrete and generally follows the **Brownian motion** probability, but may be generated as densely as necessary by reducing the time lapse between... any model known in the art for calculating theoretical prices of options, e.g., a **Brownian motion** model, as applied to any type of option, including exotic options. Furthermore, this application is... Black-Scholes model is a limited approximation that may yield results very far from real **market prices** and, thus, corrections to the Black-Scholes model must generally be added by traders. In...as the commodity's price moves further away from the ATM strike.

25 The phrase " **market price** of a derivative" is used herein to distinguish between the single value produced by some...intuition, experiments involving changing the factors of an option to see how they affect the **market price** , 15 and past experience, which is considered

to be the most important tool of traders...traders not only to correctly evaluate the price of the option, for example, the mid- **market price** of the option, but also to accurately determine the bid-offer spread of the option...of the present invention with real time market data, the model 5 generates real time **market prices** for derivatives and, therefore, the model automates the process of buying/selling derivatives.

In an...different types of asset markets are generally analogous in that they are controlled by analogous **market conditions** , e.g., forward rates, interest rates, stock dividends and costs ...may be time dependent. The corrected TV, also referred to herein as the adjusted mid- **market price** , may be computed as a function of the TV and the weighted corrections, or using...other and are required to deal only with banks. By having an accurate model for **market prices** , any two parties can deal 10 with each other on a margin basis, even if...parameters defining the option, receiving second input data corresponding to a 15 plurality of current **market conditions** relating to the underlying asset, computing a plurality of building blocks based on the first...of parameters defining the option, receiving second input data corresponding to a plurality of current **market conditions** relating to the underlying asset, computing a
11
corrected theoretical value (CTV) of the option...the option, the server further receiving second input data corresponding to a plurality of current **market conditions** relating to the underlying asset, and a processor, associated with the server, which computes a...option, the server further receiving second input 30 data corresponding to a plurality of current **market conditions** relating to the underlying asset, and a processor, associated with the server, which computes, based ...present invention is described in the context of a model for calculating the market value (**market price**) of a foreign exchange (FX) exotic option. It should be appreciated, however, that models in... an embodiment of the present invention, two quantities are calculated separately, namely, the adjusted mid- **market price** and the bid/offer spread.

According to ...this embodiment, separate calculations are used for computing the two 30 quantities. The adjusted mid- **market price** is defined as the middle (i.e. the average) between the bid price and the...

...the Black-Scholes model provides one price that may be referred to as theoretical mid- **market price** or theoretical value (TV). The adjusted mid- **market price** provided by the present invention may be regarded as an adjustment to the Black-Scholes price. Thus the
14
adjusted mid- **market price** of the present invention may also be referred to as the corrected theoretical value (...example, a higher or lower value corresponding to some known function of to the mid- **market price** . The use of mid- **market price** as a reference for the computations is preferred simply because existing theoretical models for calculating...of the bid/offer spread may be similar to those used to calculate the mid- **market price** because both the midmarket price and the bid/offer spread are related to the risk...g., based on the Black-Scholes model, or any model assuming that spot undergoes a **Brownian motion** pattern. This initial TV may be computed in an analytical method or using numerical calculations...industry for pricing derivatives in cases where the underlying asset is assumed to follow a **Brownian motion** (a stochastic process). The inputs for the TV may include expiration date, class of the the adjusted mid- **market price** , also referred to herein as corrected TV (CTV).

a correct bid/offer spread and a correct adjusted mid- **market price** for the exemplary 10 options computed. It is also evident from Table I that the...are thus prevented from using derivatives for their hedges. By having an accurate model for **market prices** any two parties can deal with each other on a margin basis, even if they...used in exchanges, that includes the current loss for the seller relative to the current **market price** . Thus if one of the counter parties defaults during the life of the option, the...

...system. Assuming that the value calculated by the model of the present invention for the **market price** of a given derivative at a given time, t, is P(t). The price P...

Claim
... of parameters
defining said option;
receiving second input data corresponding to a plurality of current **market conditions** relating to said underlying asset;
computing a corrected theoretical value of said option based on...or claim 2 wherein said second input
data comprises an indication of at least one **market condition** selected from the group including a spot value, an ...said option, the server further receiving second input data corresponding to a plurality of current **market conditions** relating to said underlying asset; and .
a processor, associated with said server, which computes, based...or claim 22 wherein said second data
io comprises an indication of at least one **market condition** selected from the group including a spot value, an interest rate, a volatility, an at ...parameters
defining said option;
20 receiving second input data corresponding to a plurality of current **market conditions** relating to said underlying asset;
computing a plurality of building blocks based on said first...said option, the server further receiving second input data corresponding to a plurality of current **market conditions** relating to said underlying asset; and
a processor, associated with said server, which computes a...

7/3,K/13 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00967463 **Image available**
INTEGRATED ELECTRONIC EXCHANGE OF STRUCTURED CONTRACTS WITH DYNAMIC RISK-BASED TRANSACTION PERMISSIONING
PROCEDE D'ECHANGE ELECTRONIQUE INTEGRE DE CONTRATS STRUCTURES AVEC FONCTION D'AUTORISATION DE TRANSACTION AXEE SUR LES RISQUES
Patent Applicant/Assignee:
OPT4 DERIVATIVES INC, 793 Heinz Avenue, Berkeley, CA 94710, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
BALSON William E, 26209 Dori Lane, Los Altos Hills, CA 94022, US, US (Residence), US (Nationality), (Designated only for: US)
RAUSSER Gordon C, 661 San Luis Road, Berkeley, CA 94707, US, US (Residence), US (Nationality), (Designated only for: US)
CRAFT Laura R, 819 Ensenada, Berkeley, CA 94707, US, US (Residence), US (Nationality), (Designated only for: US)
BARZ Graydon L, 1015 Peggy Lane, Menlo Park, CA 94025, US, US (Residence), US (Nationality), (Designated only for: US)

Legal Representative:
VILLENEUVE Joseph M (agent), Beyer Weaver & Thomas, LLP, P.O. Box 778, Berkeley, CA 94704-0778, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 2002101507 A2-A3 20021219 (WO 02101507)
Application: WO 2002US18606 20020611 (PCT/WO US0218606)
Priority Application: US 2001297484 20010611; US 2001300584 20010622; US 2002167225 20020610
Designated States:
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
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Fulltext Word Count: 22579

Fulltext Availability:
Detailed Description
Detailed Description
... of collateral required might vary over time due to changing values of the contract, changing **market conditions** , the changing financial condition of the counterparties, and the progress of time toward expiration of...risk factors and contingent decisions over time, and combine the results. Risk factors may be **market prices** , default potential, external events, or other uncertainty. Scenarios can be created by random, pseudo-random...the collateral requirements of a given portfolio can then be adjusted in accordance with changing **market conditions** .

The present invention also presents a novel method of netting risk or value at risk...are used to modify standard formulas for parametric value at risk so a more accurate **estimate** position risk is obtained. Control **variables** may be specific to individual users, specific to individual contract specifications, or specific to **market conditions** . Control variables are intended to be modified periodically, but not necessarily in real time, by...on the available data. Portfolio value can be determined through a combination of analytics and **market prices** . For non-clearing members, limits are assigned by the supervising entity.

An embodiment of the...volatility multipliers. Though many of the parameter settings are expected to be constant for given **market conditions** , real-time adjustments are also accommodated to enable active market management.

As part of its...5)
C A 2
or some other method may be used for choosing the control **variables** (@. For example, a maximum likelihood **estimate** could be used, or **changes** could be minimized to the control variables over time.

To further illustrate the approach, equation...options, options on indices, barriers, etc.; and for a wide variety ofprobability processes, such as **Brownian motion** , stochastic jumps, stochastic volatility,

mixed distributions of market and credit risk, default events, etc. Any ...taking credit rating into account, 3) the position risk calculated is dynamically adjusted to current **market price** conditions, 4) the method nets position risk across a portfolio of contracts, 5) collateral can...7) the method is applicable to contracts whose value is a non-linear relationship with **market prices** .

A new method has been described for deciding which transactions should be permitted that offer...
...with the risk characteristics of a proposed transaction
I dynamically adjusts collateral requirements to changing **market conditions**
iii. provides a risk-based method for defining the magnitude of a performance bond
iv...s contract portfolio, the portfolios of other traders in the user's member organization, the **market prices** for all relevant contract elements, the market value of the user's available collateral, and... their current net value represents assets available to users. The system also enables users to **forecast** the potential for collateral to **change** over time.

8. Decision support system 14 - The decision support system 14 provides assistance to...

...enables users to analyze the desirability of proposed or potential 1 5 contracts, and to **forecast** potential **changes** in contract valuation and changes in their position risk. An embodiment of the system enables ...position risk check on each user to ensure that adequate collateral is available after changing **market conditions** , collateral allocations, and/or contract portfolios since the orders were approved. When a legally binding...

7/3,K/14 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00915711
APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
APPAREIL ET PROCEDE POUR L'EVALUATION DES CONDITIONS DU MARCHE
Patent Applicant/Assignee:
CAPGUARD COM INC, 3960 Howard Hughes Parkway, 5th Floor, Las Vegas, NV 89109, US, US (Residence), US (Nationality)
Inventor(s):
CRANE George C, Apartment 308, 300 River Road, Manchester, NH 03104, US,
Legal Representative:
INGERMAN Jeffrey H (et al) (agent), c/o Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200248944 A1 20020620 (WO 0248944)
Application: WO 2001US48405 20011213 (PCT/WO US0148405)
Priority Application: US 2000736070 20001213
Designated States:
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI

SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 9349

APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
Fulltext Availability:
Detailed Description
Claims

English Abstract
An apparatus and method for assessing **market conditions** , or for analyzing of other parameters that appear to fluctuate randomly, compare the changing conditions to the **changes** that would be predicted by **Brownian Motion** . If the **changes** exceed those **predicted** by **Brownian Motion** , a **trend** is considered to exist and can be expected to continue, while if the **changes** are less than those **predicted** by **Brownian Motion** , then a **congestion** condition exists. If enough **measurements** are taken, it may be possible to **predict** how long the **trend** or **congestion** will last. Preferably, the computation necessary to analyze the data on the condition being monitored...

Detailed Description
APPARATUS AND METHOD FOR
ASSESSING **MARKET CONDITIONS**
Backmround of the Invention
This invention relates to a technique for assessing the condition of...

...financial
market. More particularly, this invention is a .

technique for determining the state of a **market price** relative to a normative value, and whether such price is likely to change or to...

...the same.

It has been theorized that, absent undue influences, such as collusion within a **market , price** movements within that market should follow a normal distribution typical of purely random events. That...
...assessment and prediction.

It would be desirable to be able to develop a model of **market price** change activity that explains the non-normal price change distribution of such activity, and to...

...the Invention
It is an object of the present invention to develop a model of **market price** change activity that explains the non-normal distribution of such activity, and to provide a...

...no undue outside influences on a

...during said first duration and a maximum
value during said first duration;
determining, based on **Brownian motion** ,
an expected second range of said data during a second
duration beginning at said initial...
...first duration and a maximum
value during said first duration;
means for determining, based on **Brownian**
motion , an expected second range of said data during a
second duration beginning at said initial...initial
first duration and a maximum value during said initial
first duration,
determining, based on **Brownian motion** ,
an expected second range of said data during said
second duration, and .
determining that said...

7/3,K/15 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00898439
FIBER OPTIC APPARATUS AND USE THEREOF IN COMBINATORIAL MATERIAL SCIENCE
DISPOSITIF A FIBRE OPTIQUE ET SON UTILISATION EN SCIENCE COMBINATOIRE DES MATERIAUX
Patent Applicant/Assignee:
SYMYX TECHNOLOGIES INC, 3100 Central Expressway, Santa Clara, CA 95051, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
KUEBLER Sigrid C, 1055 E. Evelyn Avenue, Apt. E61, Sunnyvale, CA 94086, US, -- (Residence), -- (Nationality), (Designated only for: US)
BENNETT James, 1196 Phillips Court, Santa Clara, CA 95051, US, -- (Residence), -- (Nationality), (Designated only for: US)
Legal Representative:
STONE Paul A (et al) (agent), Symyx Technologies, Inc., 3100 Central Expressway, Santa Clara, CA 95051, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200231477 A2-A3 20020418 (WO 0231477)
Application: WO 2001US31710 20011010 (PCT/WO US0131710)
Priority Application: US 2000689553 20001011
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EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 30173

Fulltext Availability:
Detailed Description

Detailed Description

... scattering (QELS) measures the fluctuation of scattered light intensity of suspended fluids or particles exhibiting **Brownian motion** . For example, and without being bound by theory not specifically recited in the claims, measurement...quasi-elastic light scattering methods (FOQELS), systems and devices are employed.

The invention can include **measuring variable** and/or multiple scattering angles., As
'h, the skilled artisan will appreciate that the invention...

...mor
suc e than one
approach to the determination of physical properties of particles executing **Brownian motion** . In addition to the light scattering, however, embodiments of the invention can also be directed...where primary screens provide an adequate level of confidence as to scalability and/or where **market conditions** warrant a direct development approach. Similarly, where optimization of materials having known properties of interest...

7/3,K/16 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00846413 **Image available**
METHOD AND SYSTEM FOR PRICING OPTIONS
PROCEDE ET SYSTEME DE TARIFICATION D'OPTIONS
Patent Applicant/Assignee:
SUPERDERIVATIVES INC, c/o Holland & Knight LLP, 195 Broadway, New York, NY 10007, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
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DAGAN Orik, 47 Harama Street, Ganey Tikva, IL, IL (Residence), IL (Nationality), (Designated only for: US)
LEVY Yuval, 99 Walmington Fold, London N12, GB, GB (Residence), IL (Nationality), (Designated only for: US)
Legal Representative:
BRENENSON Chanah S (et al) (agent), Darby & Darby P.C., 805 Third Avenue, New York, NY 10022-7513, US,
Patent and Priority Information (Country, Number, Date):
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Application: WO 2001US12264 20010413 (PCT/WO US0112264)
Priority Application: US 2000197622 20000413
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(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 13373

Fulltext Availability:
Detailed Description
Claims

English Abstract
...of parameters defining the option, receiving second input data corresponding to a plurality of current **market conditions** relating to the underlying value, computing a corrected theoretical value of the option based on...

Detailed Description
... depending on the current exchange rate (spot) for that currency.

If the spot (Le., current **market**) **price** is lower than the strike price, the holder may choose not lo to exercise the...on a presumption that the change in the rate of the asset generally follows a **Brownian motion** , as is known in the art. Using such **Brownian motion** model, known also as a stochastic process, one may calculate the theoretical price of any...

...any model known in the art for calculating theoretical prices of options, e.g., a **Brownian motion** model, as applied to any type of option, including exotic options.

It is appreciated by...

...Black-Scholes model is a limited approximation that may yield results very far from real **market prices** and, thus, corrections to the Black-Scholes model must generally be added by traders. In...

...higher as the commodity's price moves farther away from the ATM strike. The phrase " **market price** of a derivative" is used herein to distinguish between the single value produced by some...intuition, experiments involving changing the factors of an option to see how they affect the **market price** , and past experience, which is considered to be the most important tool of traders. Factors...

...traders not only to correctly evaluate the price of the option, for example, the mid- **market price** of the option, but also to accurately determine the bid-offer spread of the option...

...of the present invention with real time mark-et data, the model generates real time **market prices** for derivatives and, therefore, the model automates the process of buying/selling derivatives.

In an...

...different types of asset markets are generally analogous in that they are controlled by analogous **market conditions** , e.g., forward rates, interest rates, stock dividends and costs of carry, and therefore, an... may he time dependent.

The corrected TV, also referred to herein as the adjusted mid- **market price** , may be computed as a function of the TV and. the weiglited corrections, or using...

...of parameters defining the option, receiving second input data corresponding to a plurality of current **market conditions** relating to the underlying asset, computing a plurality of building blocks based on the first...

The information received from the user and the real time **market conditions** are processed by an application server 212, which may include any combination of hardware and...for example, option parameters such as strik,e , put or call, barrier, as weIl as **market conditions** relevant to the trade, e.g., spot, forward, ATM volatility, 25 delta RR, 25 delta ...

...the average of the bid/offer prices presented by the different market malcers. The fair **market price** represents the **market price** of the option. Finally, the bid and offer prices calculated in accordance with a preferred...

...bottom of the table, denoted "model price". These prices are generated from the adjusted mid- **market prices** and the bid/offer spreads as described above. It is evident from Table 1 that...

...of the present invention provides a correct bid/offer spread and a correct adjusted mid- **market price** for the exemplary options computed. lt is also evident firom Table 1 that the TV...

Claim
... of parameters defining
said option;
recciving second input data corresponding to a plurality of current **market**
conditions relating to said underly(inverted exclamation mark)ng asset;
computing a corrected theoretical value of...

...or claim 2 wherein said second input data comprises an indication of at least one **market condition** selected from the group including a spot value, an interest rate, a volatility, an at...

...said option, the server further receiving second input data corresponding to a plurality of current **market conditions** relating to said underly(inverted exclamation mark)ng asset; and a processor, associated with said...21 or claim 22 wherein said second data comprises an indication of at least one **market condition** selected from the group including a spot value, an interest rate, a volatility, an at...

...of parameters defining
said option;
receiving second input data corresponding to a plurality of current **market**
conditions relating to said underiy(inverted exclamation mark)ng asset;
computing a plurality of building blocks...said option, the server farther receiving second input data corresponding to a plurality of current **market conditions** relating to said underlying asset; and a processor, associated with said server, which computes a...

7/3,K/17 (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00819423
CREDIT RISK ESTIMATION SYSTEM AND METHOD
SYSTEME ET PROCEDE D'ESTIMATION DES RISQUES DE CREDIT
Patent Applicant/Assignee:

CANADIAN IMPERIAL BANK OF COMMERCE, Commerce Court West, 15th Floor, Toronto, Ontario M5L 1A2, CA, CA (Residence), CA (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

CROUHY Michel, 13 Berryman Street, Toronto, Ontario M5R 1M7, CA, CA (Residence), FR (Nationality), (Designated only for: US)

NUDELMAN Gregory, 27 McCabe Crescent, Thornhill, Ontario L4J 2S6, CA, CA (Residence), CA (Nationality), (Designated only for: US)

IM John, 1356 Winterbourne Drive, Oakville, Ontario L6J 7C4, CA, CA (Residence), CA (Nationality), (Designated only for: US)

TCHERNITSER Alexei, 129 Stillwater Crescent, North York, Ontario M2R 3S3, CA, CA (Residence), CA (Nationality), (Designated only for: US)

Legal Representative:

PENNER Mark D (agent), Blake, Cassels & Graydon LLP, Box 25, Commerce Court West, Toronto, Ontario M5L 1A9, CA,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200152121 A2 20010719 (WO 0152121)

Application: WO 2000CA1440 20001207 (PCT/WO CA0001440)

Priority Application: US 2000175990 20000113; US 2000576098 20000522

Parent Application/Grant:

Related by Continuation to: US 2000576098 20000522 (CIP)

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 20935

Fulltext Availability:

Detailed Description

Detailed Description

... probabilities under

mart'nLyale measure ((I I ing a

I @) computed, for instance, from bond **market prices** by maki

column of default probabilities in the (P) transition matrix consistent with default

probabilities...returns tinder P measure Suppose that B = (BI, 1@ BI)) is a standard 1) -dimensional **Brownian motion** on a probability space (Q,F,11) (131, B2'...' 13D are independent), where F = IFi...T",dB," 0, d`11' H'

(4.2)

where

131+ f o' (4.3)

are **Brownian motions** under the probability measure 0 defined by the Radon-Nikodym derivative.

dO

expl T.JdBd...survival probability, i.e.,

for ail i,

< (6.2)

Now, we apply the theory of **change** of **measure** to 7"' to obtain the desired O transition matrix over the risk horizon.

With 7...

7/3,K/18 (Item 16 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00776157 **Image available**
SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR ESTIMATING A TIME
SYSTEME, PROCEDE, ET ARTICLE MANUFACTURE D'ESTIMATION D'UN TEMPS
Patent Applicant/Assignee:
TRADEWORX INC, Suite 1010, 304 Park Avenue South, New York, NY 10010, US, US (Residence), US (Nationality)
Inventor(s):
NARANG Manoj, 260 West 52nd Street #20E, New York, NY 10019, US,
Legal Representative:
HICKMAN Paul L (agent), Hickman Coleman & Hughes, LLP, P.O. Box 52037, Palo Alto, CA 94303-0746, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200109700 A2-A3 20010208 (WO 0109700)
Application: WO 2000US20956 20000801 (PCT/WO US0020956)
Priority Application: US 99365383 19990803; US 99365992 19990803; US 99365993 19990803
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AU BR CA CN IL IN JP KR MX RU SG
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Filing Language: English
Fulltext Word Count: 13581

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... Further, the offered price may be defined as
It should be noted that, if the **variable** that is to be **estimated** is a probability with which the limit order is to be filled instead of a...

...the security over an arbitrarily predetermined time period; a current volatility of the security, a **forecasted** trading **range** of the security over an arbitrarily predetermined time period, an implied volatility of the security...a sufficiently short time interval and that the price may be described by a driftless **Brownian motion** .

In one embodiment, such algorithm includes prob[L(P,T)] = I - k*F(P)/R...

...the odds of execution of a limit order priced at (P) to the problem of **estimating** the random **variable** R(T), the mathematical expectation of the ensuincy trading ranue in time interval (T). A **forecast** , R4T), for the forthcoming trading **range** can serve effectively as an **estimator** for R(T) provided that it meets
Z)
certain engineering standards for accuracy, robustness. and...

...should further exhibit its robust qualities by producing meaningful and useful results regardless of extreme **market conditions** . The estimation of the model's parameters should also yield consistent results over the space...tradincy ranue which is valid at the start of the day.

Step 2 yields a **forecast** of the I -day trading **range** which is valid at the end of the day. Let x be the fraction of...inches which are then arranged by the broker in a sequence for execution as the **market price** moves LIP or dovy-n. The broker usually folds them for concealment and puts them...order when the price of a commodity rises to a specified level above the current **market price** . The "buy limit order" is usually placed below the current **market price** and must be executed at the limit price or better. The difference between a buy...

...specified on the stop, above it, or below it because it is executed at the **market price** after the stop price is touched; at that point, the id to be "elected".

stop...

...to a CTI'ven level, at which point it is to be executed at the **market price** . Unlike a typical "sell limit order", the sell stop order is below the current **market price** and may be executed at a price at, above, or below the specified stop price when it is elected.

Some customers will raise their stop prices as the **market price** advances in an effort to uam as much as possible from a major move, while ...

Claim
... method as recited in claim 6, wherein siama is calculated as a function of a **forecasted** trading **range** of the security over a predeten-nined time period.

12 The method as recited in...

7/3,K/19 (Item 17 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00776156 **Image available**
SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR ESTIMATING A PROBABILITY WITH WHICH A LIMIT ORDER WILL BE FILLED
SYSTEME, PROCEDE ET ARTICLE DE FABRICATION SERVANT A ESTIMER LA PROBABILITE D'EXECUTION D'UN ORDRE A COURS LIMITE
Patent Applicant/Assignee:
TRADEWORX INC, Suite 1010, 304 Park Avenue South, New York, NY 10010, US, US (Residence), US (Nationality)
Inventor(s):
NARANG Manoj, 260 West 52nd Street #20E, New York, NY 10019, US,
Legal Representative:
HICKMAN Paul L (agent), Hickman Coleman & Hughes, LLP, P.O. Box 52037, Palo Alto, CA 94303-0746, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200109698 A2-A3 20010208 (WO 0109698)
Application: WO 2000US20953 20000801 (PCT/WO US0020953)
Priority Application: US 99365992 19990803; US 99365993 19990803; US 99366383 19990803
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AU CN JP KR SG
Publication Language: English
Filing Language: English

Fulltext Word Count: 12005

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... f(x) = I/sqrt(2*) exp(-x2/2).

It should be noted that, if the **variable** that is to be **estimated** is a probability with which the limit order is to be filled instead of a...

...with prob = 2 - 2*CUMNORM((P-PI) /(sign*sigma)). On the other hand, if the **variable** that is to be **estimated** is a time interval during which the limit order is to be filled, the aforementioned...

...the security over an arbitrarily predetermined time period; a current volatility of the security, a **forecasted** trading **range** of the security over an arbitrarily predetermined time period, an implied volatility of the security...

...a sufficiently short time interval and that the price may be described by a driftless **Brownian motion** .

I 0
In one embodiment, such algorithm includes prob[L(P,T)] = I - k*F...the odds of execution of a limit order priced at (P) to the problem of **estimating** the random **variable** R(T), the mathematical expectation of the ensuing trading **range** in time interval (T). A **forecast** , Rj(T), for the forthcoming trading **range** can serve effectively as an **estimator** for R(T) provided that it meets certain engineering standards for accuracy, robustness, and adaptivity...

...within
time interval (T),
The estimator R@T) thus represents an adaptive, robust algorithm for **predicting** the future trading **range** of an exchange-traded security in real time. As set forth hereinabove, R(T) denotes...

...should further exhibit its robust qualities by producing meaningful and useful results regardless of extreme **market conditions** . The estimation of the model's parameters should also yield consistent results over the space...

...first principles that Rj(T) varies as the square root of (T). Thus, one can **forecast** the **range** over an arbitrary interval by taking the output of Step 3 and multiplying by the...inches which are then arranged by the broker in a sequence for execution as the **market price** moves up or down. The broker usually folds them for concealment and puts them in...order when the price of a commodity rises to a specified level above the current **market price** . The "buy limit order" is usually placed below the current **market price** and must be executed at the limit price or better. The difference between a buy...

...specified on the stop, above it, or below it because it is executed at the **market price** after the stop price is touched; at that point, the stop is said to be...

...falls to a given level, at which point it is to be executed at the **market price** . Unlike a typical "sell limit order", the sell stop order

is below the current **market price** and may be executed at a price at, above, or below the specified stop price when it is elected. Some customers will raise their stop prices as the **market price** advances in an effort to gain as much as possible from a major move, while...

Claim
... method as recited in claim 6, wherein sigma is calculated as a function of a **forecasted** trading **range** of the security over a predetennined time period.

12 The method as recited in claim...

7/3,K/20 (Item 18 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00478148
METHOD AND DATA SYSTEM FOR DETERMINING FINANCIAL INSTRUMENTS FOR USE IN THE FUNDING OF A LOAN
PROCEDE ET SYSTEME DE DONNEES DESTINES A DETERMINER LES INSTRUMENTS FINANCIERS UTILISES DANS LE FINANCEMENT D'UN PRET
Patent Applicant/Assignee:
REALKREDIT DANMARK A S,
KRISTIANSEN Klaus,
BORGERSEN Borger,
LARSEN Bjarne Graven,
ROSENKRANS Mads,
LINDAHL Thomas,
TORNES-HANSEN Stig,
PETERSEN Bo Godthjaelp,
Inventor(s):
KRISTIANSEN Klaus,
BORGERSEN Borger,
LARSEN Bjarne Graven,
ROSENKRANS Mads,
LINDAHL Thomas,
TORNES-HANSEN Stig,
PETERSEN Bo Godthjaelp,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9909500 A2 19990225
Application: WO 98DK339 19980731 (PCT/WO DK9800339)
Priority Application: DK 090397 19970801
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AT AU AZ BA BB BG BR BY CA CH CN CU CZ CZ DE DE DK DK EE EE ES
FI FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK SL TJ TM TR TT UA
UG US UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM
AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM
GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 64236

Fulltext Availability:
Detailed Description
Claims

Detailed Description

... financial instruments on the creditor side of the loan must be determined such that the **market price** of the financial instruments equals the volume of the loan on the debtor side.

2...basis of which the loan or the claim may be priced in accordance with observed **market prices** .

Similarly, the funding principle may be applied to risk management of loans and claims, the...a maximum permissible difference in proceeds between, on the one hand, the sum of the **market price** of the volume of the financial instruments applied for the funding ...a selected number of financial instruments with inherent characteristics such as the type, the price/ **market price** , and the date of the price/ **market price** , (f) determining and storing, in a memory or a storage medium of the computer system...maximum permissible difference in 35 balance between, on the one hand, the sum of the **market price** of the volume of the financial instruments applied for the funding of the loan and...the debtor side and the payments on the financial instruments or resulting differences in the **market price** of sold financial instruments and the funding demands correspond to the payments on the payment...

...Conveniently, the payments on the payment guarantee instru ment correspond to the differences in the **market price** of sold financial instruments and the funding demand resulting from the recalculation, the volume of...demand given by the balance requirement and, on the other hand, the sum of the **market price** of the addition to the financial instruments.

As mentioned above, the issue of new financial...debtor as a reduction in the interest rate payable, possibly via an increase in the **market price** of the financial instruments to be applied in the refinancing, and that the payments to...a maximum permissible difference in proceeds between, on the one hand, the sum of the **market price** of the volumes of the financial instruments applied for the funding of the loan, and...a selected number of financial instruments with inherent characteristics such as the type, the price/ **market price** , and the date of the price/ **market price** , (f) means, typically input means and a memory or a stor age medium, for determining...The different suggestions deviate by including, in different ways, factors, such as 30 volatility, observed **market prices** etc. At the same time, the models are widely different in their degree of operationability...dZ-(t) is a so-called Wiener process. (The process is also termed a generalized **Brownian motion**). The Wiener process is to be seen as the counterpart to a random walk in...be determined such that the volume of (pi - vi), is minimized, where Pi is the **market price** of the ith financial 15 claim, and Vi is the pricing in the model of...made for the theoretical prices of the model 30 being in accordance with the observed **market prices** . The calibration also implies that an estimation of the risk

5 Thereby, the fluctuations in the debtor's prepayment costs increase...in section 2.

Step g - Determine coefficients in the trend function
The coefficients of the **trend** function are **estimated** such that the value of the trend function corresponds to the volumes given the intended...step h. Due to the special interest rate adjustment profile, the first funding volume is **estimated** explicitly by a **variable** Z which is described in more detail in the next step.

Step The volumes are...

Claim
... a maximum permissible difference in proceeds between, on the one hand, the sum of the **market price** of the volume of the financial instruments applied for the funding of the loan and...a selected number of financial instruments with inherent characteristics such as the type, the price/ **market price** , and the date of the price/ **market price** ,
(f) determining and storing, in a memory or a storage medium of the computer system...debtor side and the payments on the financial instruments or resulting differ ences in the **market price** of sold financial instruments and the funding demand correspond to the payments on the payment...

...5, wherein the payments on the payment guarantee instrument correspond to the differences in the **market price** of sold financial instruments and the fund ing demand resulting from the recalculation, the volume...a maximum permissible difference in proceeds between, on the one hand, the sum of the **market price** of the volumes of the financial instruments applied for the funding of the loan, and...a selected number of financial instruments with inherent characteristics such as the type, the price/ **market price** , and the date of the price/ **market price** ,
(f) means, typically input means and a memory or a stor age medium, for determining...

7/3,K/21 (Item 19 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00417706 **Image available**
SIGNAL PROCESSING METHOD USING A FINITE-DIMENSIONAL FILTER
PROCEDE DE TRAITEMENT DE SIGNAUX AU MOYEN D'UN FILTRE DIMENSIONNEL FINI
Patent Applicant/Assignee:
UNIVERSITY OF ALBERTA,
THE UNIVERSITY OF MELBOURNE,
ELLIOTT Robert James,
KRISHNAMURTHY Vikram,
Inventor(s):
ELLIOTT Robert James,
KRISHNAMURTHY Vikram,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9808167 A1 19980226
Application: WO 97AU519 19970815 (PCT/WO AU9700519)
Priority Application: AU 961701 19960816

Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU
IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL
PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH KE LS MW
SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE
IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 16408

Fulltext Availability:
Detailed Description

Detailed Description
... as follows: In Sec.2 %ve present our signal model. In Sec we propose a **measure change** which facilitates easy derivation of the filters. In Sec.4, recursions are derived for the...simply replace 13' by B B' and B`2 hv (B B') below.

- 17
3 **Measure Change** Construction and Dynamics
We shall adapt the techniques in [10] and show how the dynamics...in January 1997
dS, 5t)Sldt + a, Stdz, Q) (1)
Here, z, is a standard **Brownian motion** , and 6t represents the "convenience yield" (which models the value of holdings amounts of the...
...51 = 1c(a - i5r)dt + cy,dz, Q) (2)
Here, Z2 is a second standard **Brownian motion** with <Zl(t), Z2(t)> = Pt.

It is convenient to consider the logarithm of the...

...is the risk-free interest rate (taken to be constant here) and X is the **market price** of convenience yield risk (also assumed constant) S and 8 follow similar processes under an...
?

4/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01495036
APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
VORRICHTUNG UND VERFAHREN ZUR BEWERTUNG DER MARKTBEDINGUNGEN
APPAREIL ET PROCEDE POUR L'EVALUATION DES CONDITIONS DU MARCHE
PATENT ASSIGNEE:
Capguard .com, Inc., (4140430), 3960 Howard Hughes Parkway, 5th Floor, Las Vegas, NV 89109, (US), (Applicant designated States: all
INVENTOR:
CRANE, George C., PO Box 1031, Sugarloaf, California 92386, (US)
LEGAL REPRESENTATIVE:
Lloyd, Patrick Alexander Desmond (60081), Redd... 6 Theobalds Road, London WC1X 8PL, (GB)
PATENT (CC, No, Kind, Date): EP 134...
WO 2002...
APPLICATION (CC, No, Date): EP 2001... 48405 011213
PRIORITY (CC, No, Date): US 736070 001...
DESIGNATED STATES: AT; BE; CH; CY; DE; ... IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; ...
INTERNATIONAL PATENT CLASS: G06F-017/60
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English

PATENT ASSIGNEE:
Capguard .com, Inc...

4/3,K/2 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00915711
APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
APPAREIL ET PROCEDE POUR L'EVALUATION DES CONDITIONS DU MARCHE
Patent Applicant/Assignee:
CAPGUARD COM INC, 3960 Howard Hughes Parkway, 5th Floor, Las Vegas, NV 89109, US, US (Residence), US (Nationality
Inventor(s):
CRANE George C, Apartment 308, 300 River Road, Manchester, NH 03104, US,
Legal Representative:
INGERMAN Jeffrey H (et al) (agent), c/o Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200248944 A1 20020620 (WO 0248944)
Application: WO 2001US48405 20011213 (PCT/WO US0148405)
Priority Application: US 2000736070 20001213
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

8/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014716257 **Image available**
WPI Acc No: 2002-536961/200257
XRPX Acc No: N02-425262

Data analyzing method for assessing broadly traded market conditions , **involves comparing data range determined between minimum and maximum values during initial interval, to expected data range based on** Brownian motion

Patent Assignee: CAPGUARD.COM INC (CAPG-N)
Inventor: **CRANE G C**
Number of Countries: 101 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020073004	A1	20020613	US 2000736070	A	20001213	200257	B
WO 200248944	A1	20020620	WO 2001US48405	A	20011213	200257	
AU 200230856	A	20020624	AU 200230856	A	20011213	200267	
EP 1342196	A1	20030910	EP 2001991107	A	20011213	200367	
			WO 2001US48405	A	20011213		
BR 200116117	A	20031223	BR 200116117	A	20011213	200406	
			WO 2001US48405	A	20011213		
NZ 526552	A	20040326	NZ 526552	A	20011213	200425	
			WO 2001US48405	A	20011213		
JP 2004516554	W	20040603	WO 2001US48405	A	20011213	200436	
			JP 2002550583	A	20011213		
CN 1493047	A	20040428	CN 2001822010	A	20011213	200446	
ZA 200304601	A	20040929	ZA 20034601	A	20030612	200468	
AU 2002230856	B2	20041007	AU 2002230856	A	20011213	200480	

Priority Applications (No Type Date): US 2000736070 A 20001213
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020073004	A1		16	G06F-017/60	
WO 200248944	A1	E		G06F-017/60	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
AU 200230856	A			G06F-017/60	Based on patent WO 200248944
EP 1342196	A1	E		G06F-017/60	Based on patent WO 200248944
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
BR 200116117	A			G06F-017/60	Based on patent WO 200248944
NZ 526552	A			G06F-017/60	Based on patent WO 200248944
JP 2004516554	W		65	G06F-017/60	Based on patent WO 200248944
CN 1493047	A			G06F-017/60	
ZA 200304601	A		51	G06F-000/00	
AU 2002230856	B2			G06F-017/60	Previous Publ. patent AU 2002230856 Based on patent WO 200248944

Data analyzing method for assessing broadly traded market conditions , **involves comparing data range determined between minimum and maximum values during initial interval, to expected data range based on** Brownian motion

Inventor: **CRANE G C**

Abstract (Basic):
... initial interval. The obtained data range is compared with an expected data range based on **Brownian motion** .
... Provides a model of **market price** change activity for market assessment and prediction...

8/3,K/2 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00915711
APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
APPAREIL ET PROCEDE POUR L'EVALUATION DES CONDITIONS DU MARCHE
Patent Applicant/Assignee:
CAPGUARD COM INC, 3960 Howard Hughes Parkway, 5th Floor, Las Vegas, NV 89109, US, US (Residence), US (Nationality)
Inventor(s):
CRANE George C , Apartment 308, 300 River Road, Manchester, NH 03104, US
Legal Representative:
INGERMAN Jeffrey H (et al) (agent), c/o Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200248944 A1 20020620 (WO 0248944)
Application: WO 2001US48405 20011213 (PCT/WO US0148405)
Priority Application: US 2000736070 20001213
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
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APPARATUS AND METHOD FOR ASSESSING MARKET CONDITIONS
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English Abstract
An apparatus and method for assessing **market conditions** , or for analyzing of other parameters that appear to fluctuate randomly, compare the changing conditions to the changes that would be predicted by **Brownian Motion** . If the changes exceed those predicted by **Brownian Motion** , a trend is considered to exist and can be expected to continue, while if the changes are less than those predicted by **Brownian Motion** , then a congestion condition exists. If enough measurements are taken, it may be possible to...

Detailed Description